Spill Prevention, Control, and Countermeasure (SPCC) Guidance for Regional Inspectors

June 2006

U.S. Environmental Protection Agency
Office of Solid Waste and Emergency Response
Office of Emergency Management
www.epa.gov/oilspill

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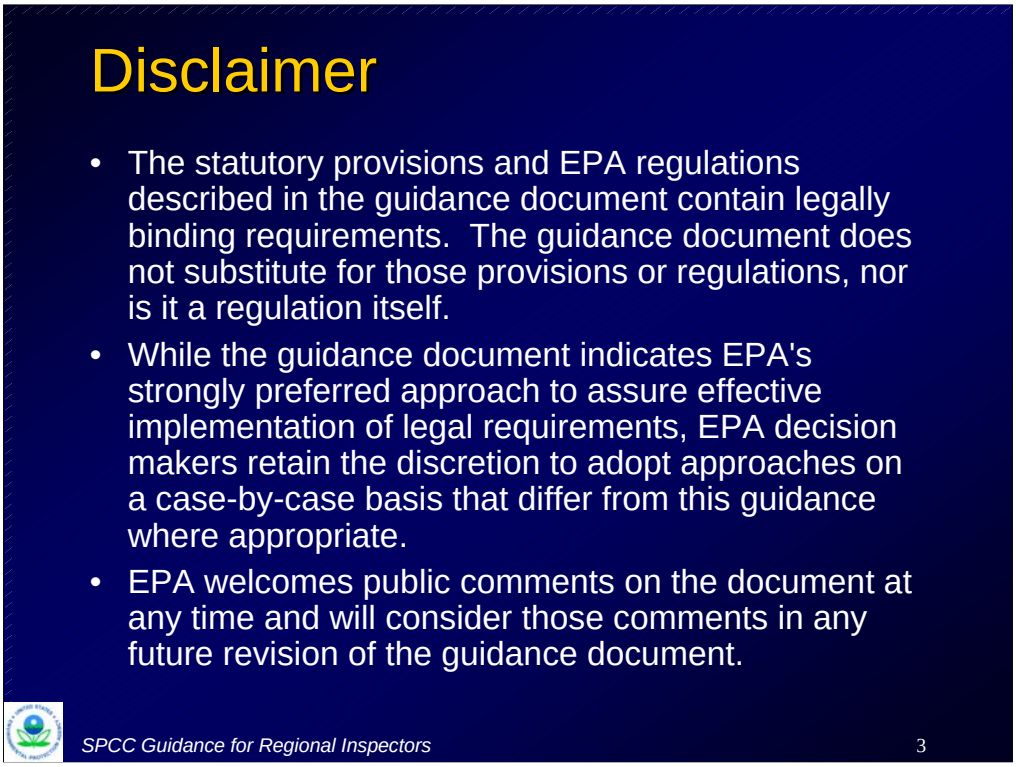
Disclaimer

- This presentation is based on the contents of EPA's *SPCC Guidance for Regional Inspectors,* version 1.0 and version 1.1.
  - It is not a substitute for the actual text of the guidance document, or the regulation itself.



Full guidance document disclaimer text:

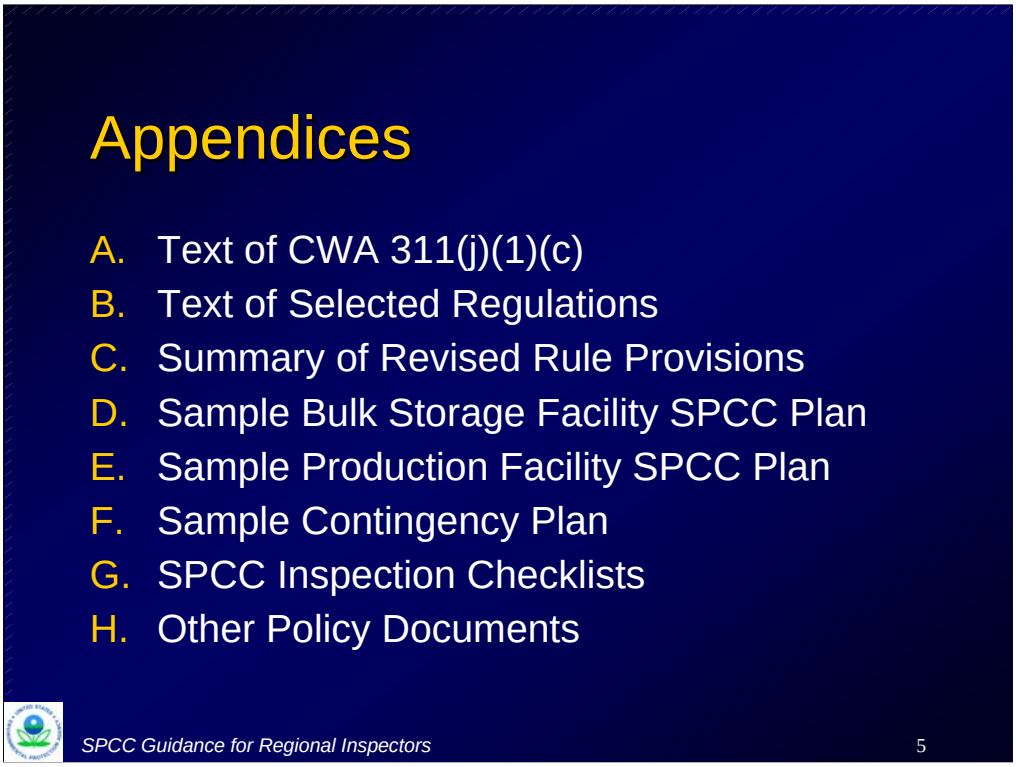
This document provides guidance to EPA inspectors, as well as to owners and operators of facilities that may be subject to the requirements of the Spill Prevention, Control, and Countermeasure (SPCC) rule (40 CFR Part 112) and the general public on how EPA intends the SPCC rule to be implemented. The guidance is designed to implement national policy on these issues.

The statutory provisions and EPA regulations described in this guidance document contain legally binding requirements. This guidance document does not substitute for those provisions or regulations, nor is it a regulation itself. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling. Thus, it does not impose legally binding requirements on EPA or the regulated community, and might not apply to a particular situation based upon the circumstances. The word “should” as used in this Guide is intended solely to recommend or suggest, in contrast to “must” or “shall” which are used when restating regulatory requirements. Similarly, model SPCC Plans in Appendices D, E, and F, as well as examples of SPCC Plan language in the guidance, are provided as suggestions and illustrations only. While this guidance document indicates EPA's strongly preferred approach to assure effective implementation of legal requirements, EPA decisionmakers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions regarding a particular facility will be made based on the statute and regulations.

Interested parties are free to raise questions and objections about the substance of this guidance and the appropriateness of the application of this guidance to a particular situation. This guidance is a living document and may be revised periodically without public notice. This document will be revised, as necessary, to reflect any relevant future regulatory amendments. EPA welcomes public comments on this document at any time and will consider those comments in any future revision of this guidance document.

Guidance Document Chapters

- Chapter 1: Introduction
- Chapter 2: Applicability of the SPCC Rule
- Chapter 3: Environmental Equivalence
- Chapter 4: Secondary Containment and Impracticability Determinations
- Chapter 5: Oil/Water Separators
- Chapter 6: Facility Diagrams
- Chapter 7: Inspection, Evaluation, and Testing



Supplemental Information:

After the table of contents, the guidance document also contains a list of contact information for EPA Oil Program offices, and a list of acronyms used throughout the document text.

Chapter 1: Introduction

- Purpose and Scope of 40 CFR part 112
- Statutory Framework
- Initial Promulgation (1973)
- Proposed Revisions (1991, 1993, 1997)
- Final Rule Revisions (2002)
- Compliance Date Amendments (2003, 2004, and 2006)
- Rule Organization
- Using the SPCC Guidance for Regional Inspectors

The Oil Pollution Prevention Regulation (40 CFR part 112)

- Promulgated under the authority of section 311(j)(1)(C) of the Clean Water Act.
- Designed to protect public health, welfare, and the environment from potential harmful effects of oil discharges to navigable waters and adjoining shorelines.
- Sets forth requirements for prevention of, preparedness for, and response to oil discharges at specific non-transportation-related facilities.

Supplemental Information:

A complete copy of 40 CFR part 112 can be found in Appendix B of the guidance document.

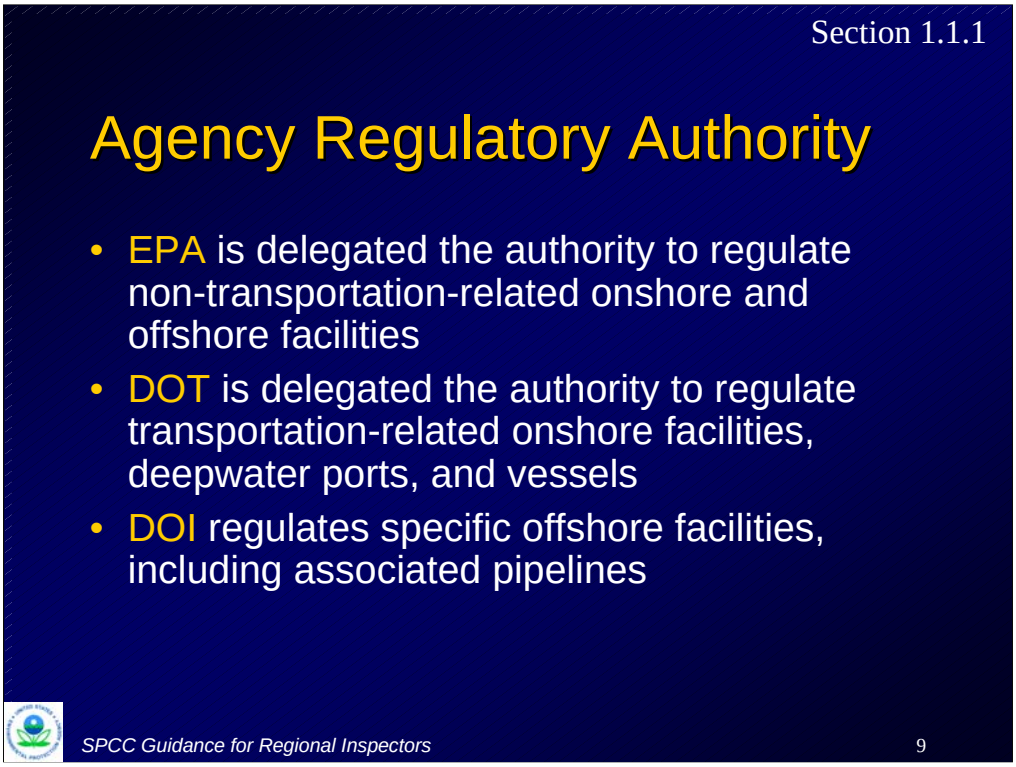
The SPCC Rule

- Subparts A, B, and C of part 112
- Require facilities to develop and implement a site-specific SPCC Plan to address:
  - Operating procedures to prevent an oil discharge;
  - Control measures to prevent an oil discharge from entering navigable waters; and
  - Countermeasures to contain, clean up, and mitigate the effects of any oil discharge that affects navigable waters.

Supplemental Information:

Rule Text

§112.2 *Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan* means the document required by §112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.



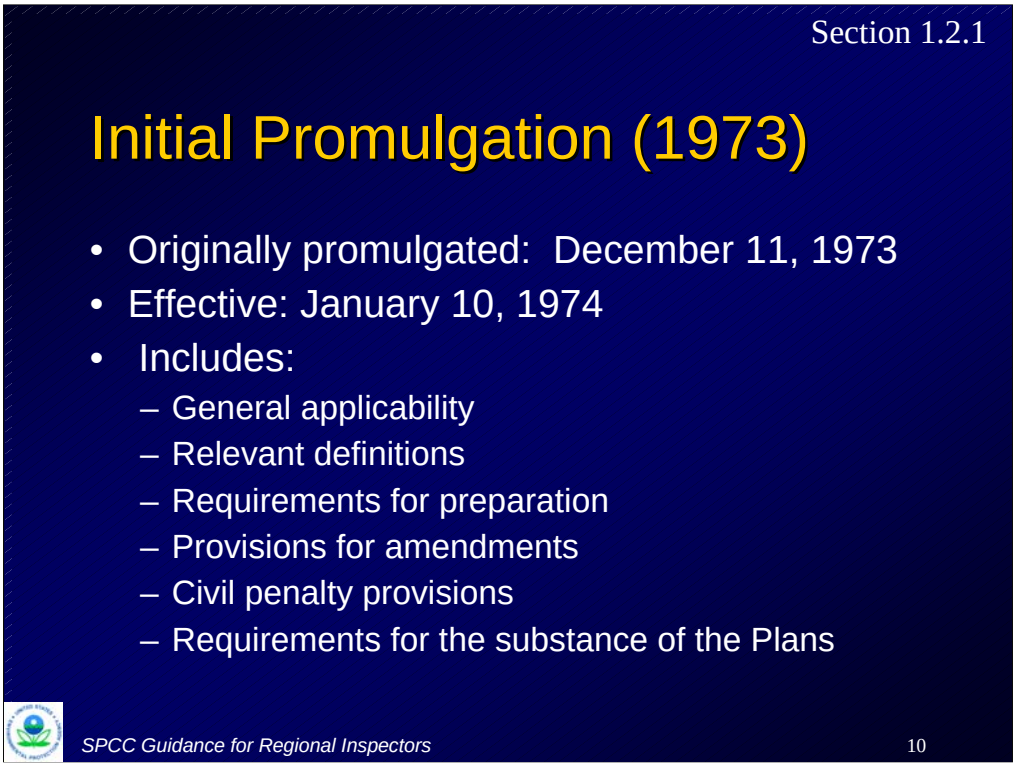
Relevant guidance document text:

EPA was delegated the authority to regulate non-transportation-related onshore and offshore facilities that could reasonably be expected to discharge oil into navigable waters of the United States or adjoining shorelines through Executive Order 11548 (superceded by Executive Orders 11735 and 12777)

The U.S. Department of Transportation (DOT) was delegated authority over transportation-related onshore facilities, deepwater ports, and vessels. A Memorandum of Understanding (MOU) between the Secretary of Transportation and the EPA Administrator, dated November 24, 1971 (36 FR 24080, December 18, 1971), defines non-transportation-related facilities and transportation-related facilities. (A significant portion of this MOU is included as Appendix A to 40 CFR part 112.) In addition, the U.S. Department of the Interior (DOI) regulates specific offshore facilities, including associated pipelines. The jurisdictional responsibilities of EPA, DOT, and DOI in relation to offshore facilities are further discussed in another Memorandum of Understanding, dated November 8, 1993. (This MOU is included as Appendix B to 40 CFR part 112.)

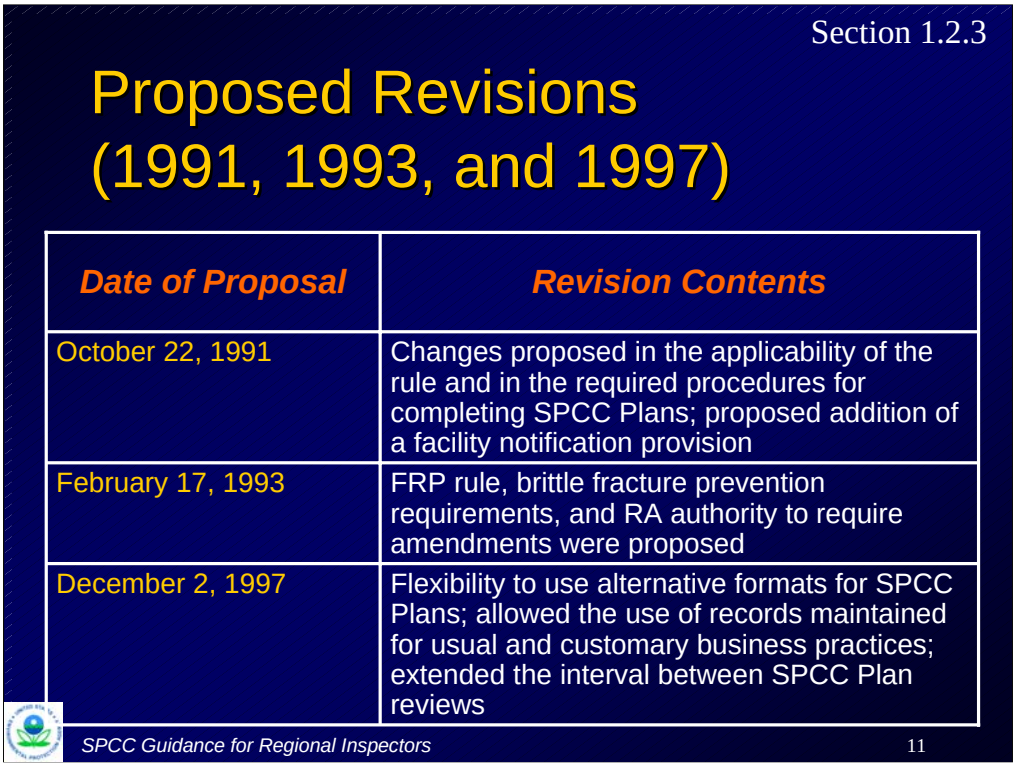
This information is covered in more detail in Chapter 2.

DOT delegated authority over transportation-related facilities and vessels to the U.S. Coast Guard. In March 2003, the Coast Guard formally transferred from DOT to the Department of Homeland Security, but retains this CWA authority (Executive Order 13286, 68 FR 10619, March 5, 2003).



Relevant guidance document text:

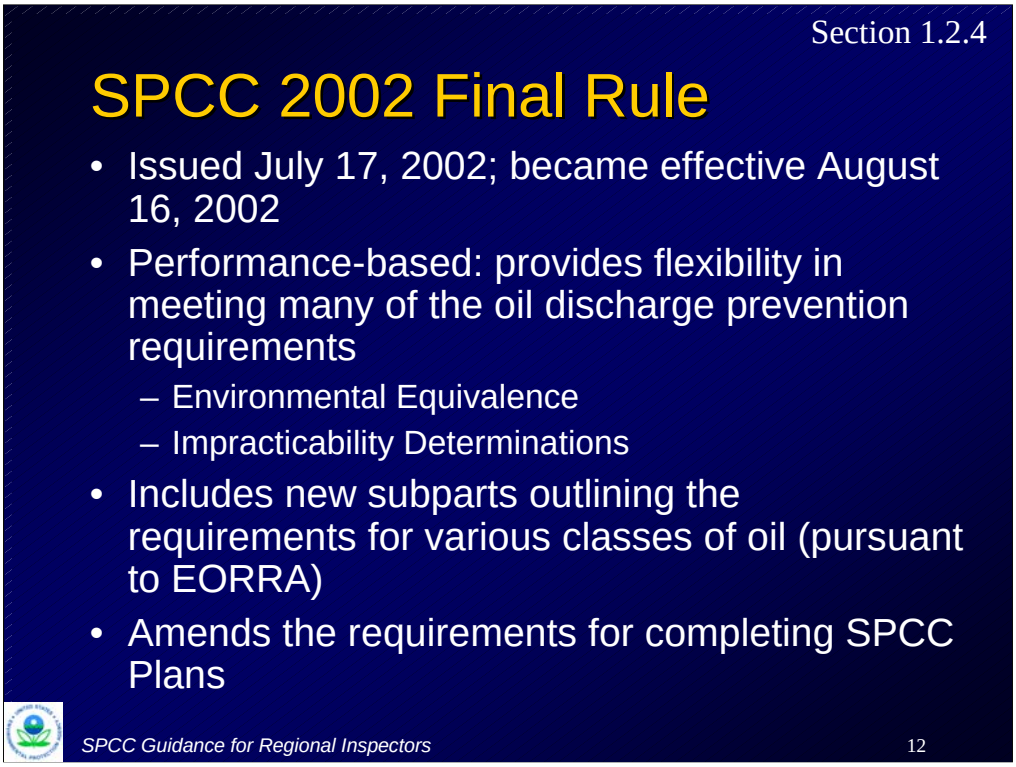
Two early revisions were made to the original SPCC rule. On August 29, 1974, the regulation was amended (39 FR 31602) to set out EPA's policy on civil penalties for violation of the CWA §311 requirements. On March 26, 1976, the rule was again amended (41 FR 12567), primarily to clarify the criteria for determining whether or not a facility is subject to the regulation. This rulemaking also clarified that SPCC Plans must be in a written form (§112.7, introductory paragraph) and specified procedures for developing SPCC Plans for mobile facilities.



Relevant guidance document text:

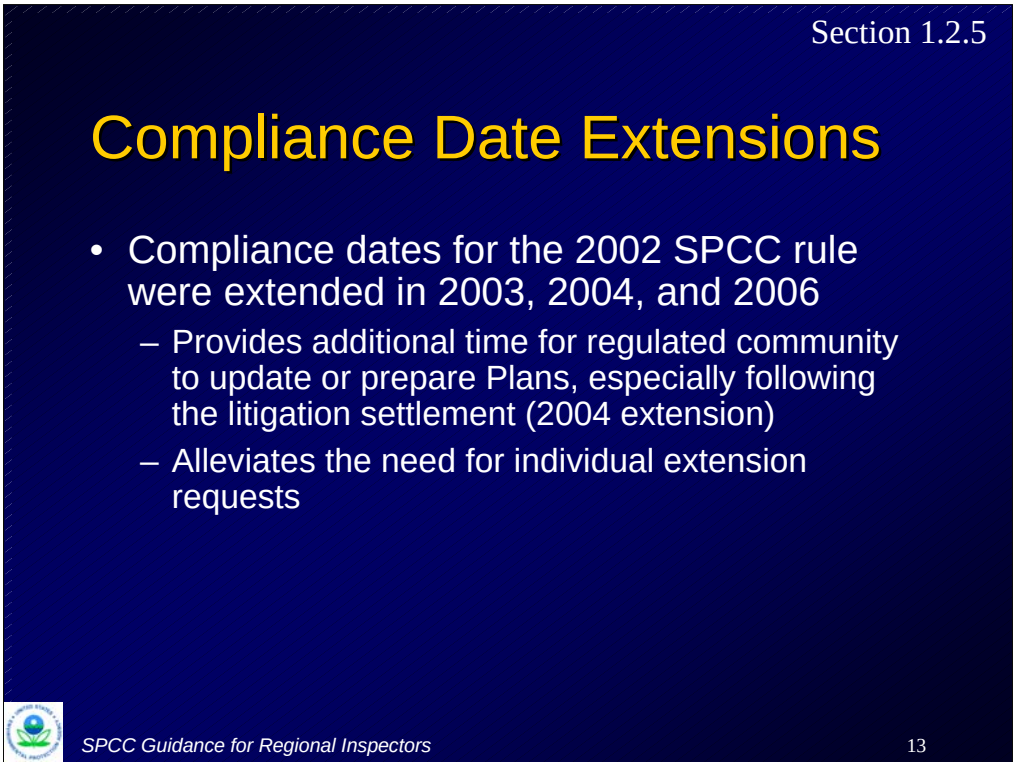
Following the Monongahela River spill and recommendations of the SPCC Task Force and GAO, EPA proposed substantive revisions to the SPCC requirements on three occasions (1991, 1993, and 1997) and solicited public comment on these revisions. Specifically:

- On October 22, 1991 (56 FR 54612), EPA proposed changes in the applicability of the SPCC rule and in the required procedures for completing SPCC Plans, as well as the addition of a facility notification provision. The proposed rule also reflected changes in the jurisdiction of CWA §311 made by the 1977 and 1978 amendments to the Act.
- On February 17, 1993 (58 FR 8824), EPA published an additional proposed rule to incorporate new requirements added by OPA that directed facility owners and operators to prepare plans for responding to a worst case discharge of oil and to a substantial threat of such a discharge (the FRP rule). EPA promulgated the FRP rule on July 1, 1994 (59 FR 34070). The 1993 proposed rule also included revisions to the SPCC requirements, including: (1) a requirement for an SPCC Plan to address training and methods of evaluating containers for protection against brittle fracture; (2) provisions for Regional Administrators to require amendments to an SPCC Plan and to require a Plan from an otherwise exempt facility when necessary to achieve the goals of the CWA; and (3) a requirement for Plan submission if an owner or operator invokes a waiver to certain technical requirements of the SPCC rule.
- On December 2, 1997 (62 FR 63812), EPA proposed further revisions to the SPCC rule in an effort to reduce the information collection burden without creating an adverse impact on public health or the environment. The proposed revisions were intended to give facility owners and operators flexibility to use alternative formats for SPCC Plans; to allow the use of certain records maintained pursuant to usual and customary business practices, or pursuant to the National Pollutant Discharge Elimination System (NPDES) program, in lieu of records mandated by the SPCC requirements; to reduce the information required to be submitted after certain discharges; and to extend the interval between SPCC Plan reviews by the facility owner/operator. At this time, EPA also proposed amendments to the FRP requirements, which were finalized on June 30, 2000 (65 FR 40776).



Relevant guidance document text:

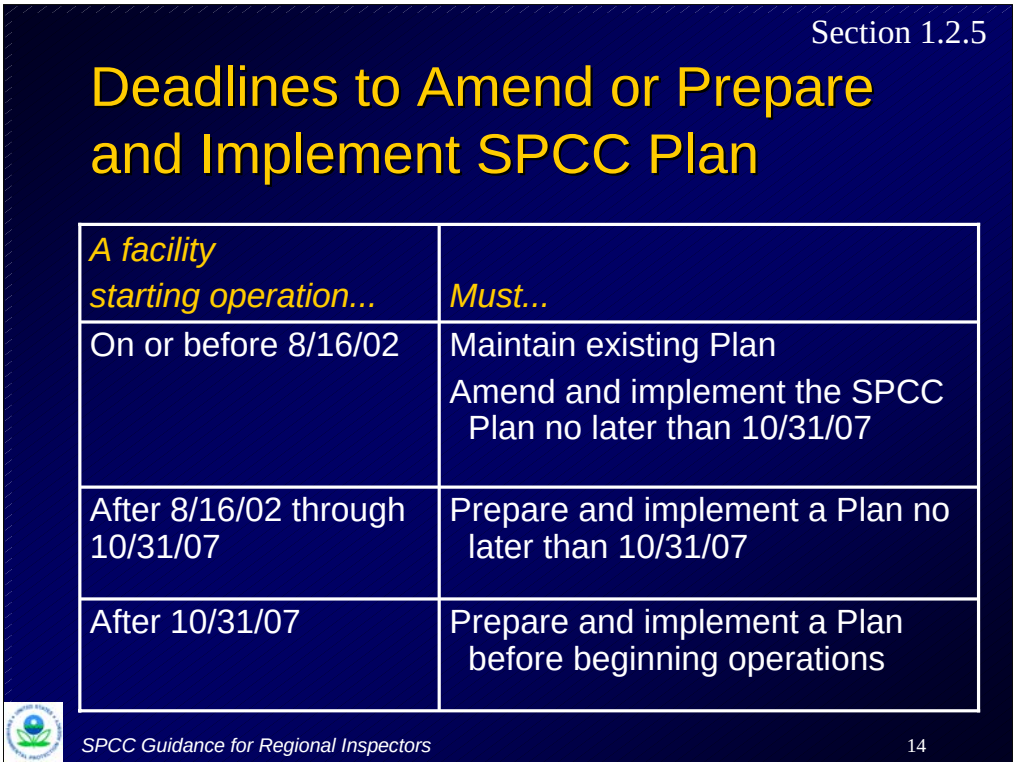
On July 17, 2002, EPA issued a final rule amending the Oil Pollution Prevention regulation, primarily with respect to the SPCC subparts of part 112 (67 FR 47042). The final rule became effective on August 16, 2002, and modified many aspects of the proposals described above. As a performance-based regulation, the rule provides flexibility to the regulated community in meeting many of the oil discharge prevention requirements and the overall goal of preventing oil spills that may impact navigable waters or adjoining shorelines. In addition, the final rule includes new subparts outlining the requirements for various classes of oil (pursuant to EORRA), revises the applicability of the regulation, amends the requirements for completing SPCC Plans, and makes other modifications. The final rule also contains a number of provisions designed to decrease regulatory burden on facility owners and operators subject to the rule, while preserving environmental protection.



Relevant guidance document text:

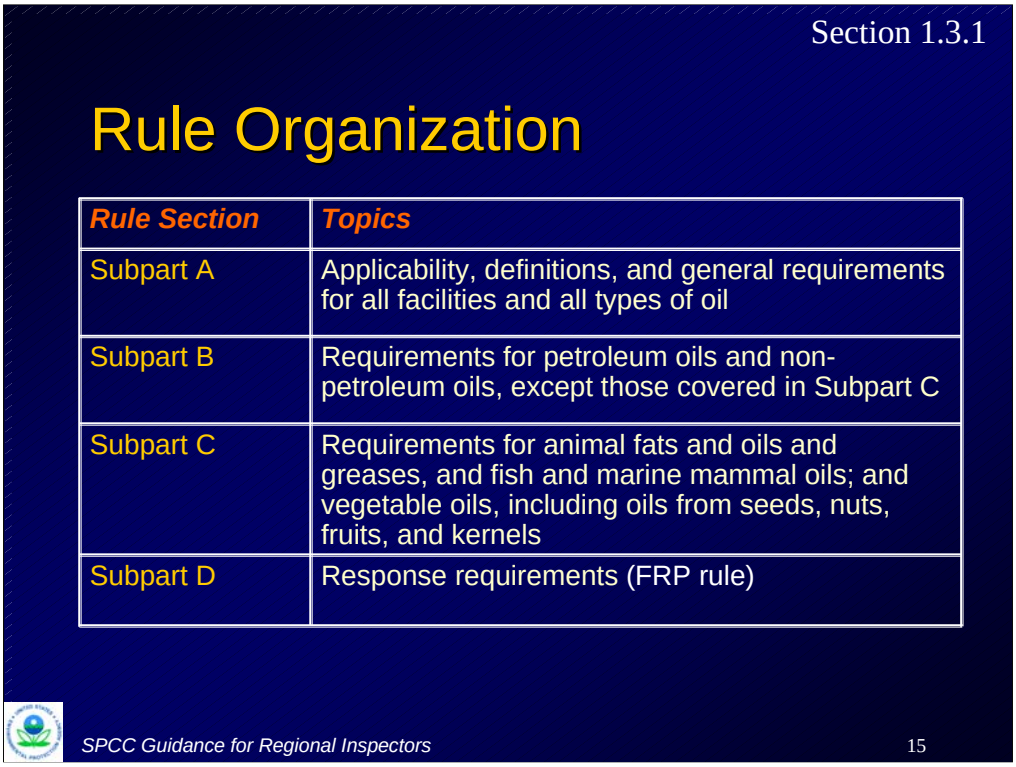
Following the 2002 final rule, on four occasions EPA extended the compliance dates for facilities to update (or for new facilities to prepare) and implement an SPCC Plan that complies with the revised requirements. The extensions provided additional time for the regulated community to understand the SPCC amendments and the implications of the settlement clarifications, and alleviated the need for individual extension requests.

EPA issued final rules in 2003, 2004, and 2006 (68 FR 1348, January 9, 2003; 68 FR 18890, April 17, 2003; 69 FR 48794, August 11, 2004; and 71 FR 8462, February 17, 2006) that each extended the compliance dates in §112.3(a) and (b). The 2004 and 2006 final rules also amended the compliance dates for onshore and offshore mobile facilities (§112.3(c)).



Relevant guidance document text:

Mobile facilities must prepare, implement, and maintain a Plan as required by the SPCC rule. They must amend and implement the Plan, if necessary to ensure compliance with the revised SPCC rule, on or before October 31, 2007. Mobile facilities that become operational after October 31, 2007, must prepare and implement a Plan before starting operations (§112.3(c)).



Relevant guidance document text:

Pertaining to all oil and facility types, Subpart A contains key sections of the SPCC rule, including:

§112.1	General Applicability
§112.2	Definitions
§112.3	Requirement to Prepare and Implement an SPCC Plan
§112.4	Amendment of an SPCC Plan by Regional Administrator
§112.5	Amendment of an SPCC Plan by Owners or Operators
§112.7	General Requirements for SPCC Plans

Additional requirements for specific facility types are given in §§112.8 through 112.12, and are found within subparts B and C. These facility types and their corresponding sections of the rule are:

Onshore Facilities (excluding production facilities), §§112.8 and 112.12

Oil Production Facilities (onshore), §112.9

Oil Drilling and Workover Facilities (onshore), §112.10

Oil Drilling, Production, or Workover Facilities (offshore), §112.11

The Oil Pollution Prevention regulation also contains several appendices, including Memoranda of Understanding and appendices referenced in the FRP rule (Substantial Harm Criteria, Determination of a Worst Case Discharge Planning Volume, Determination and Evaluation of Required Response Resources for Facility Response Plans, and a model Facility-Specific Response Plan).

Using the SPCC Guidance for Regional Inspectors

Section 1.4

- Intended to establish a consistent understanding among regional EPA inspectors on how certain provisions of the rule may be applied
- Meant to help clarify the role of the inspector in reviewing implementation of the performance-based provisions
- Does not address all aspects of the SPCC rule
- Specific regulatory language is provided in text boxes throughout document
- Always refer to full text of the current 40 CFR part 112 for applicable regulatory language
- The guidance does not address the 2005 rule proposal

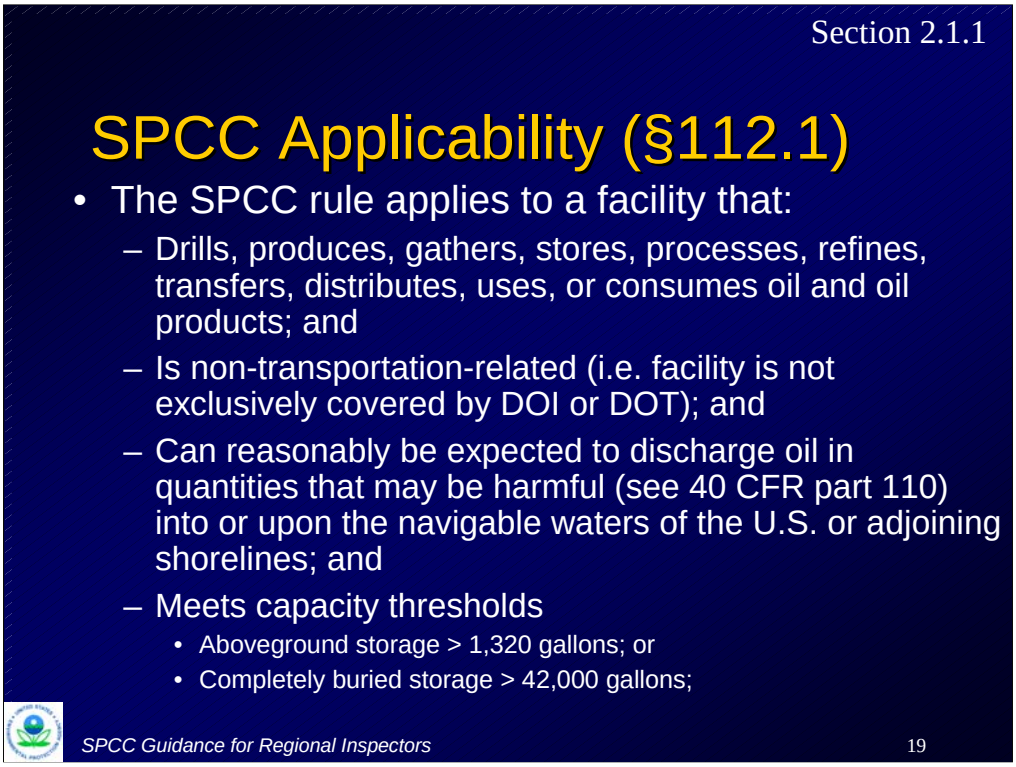
Chapter 2
Applicability of the SPCC Rule

- Defines “oil” and the regulated activities
- Notes the differences between “transportation related” and “non-transportation-related” facilities when determining jurisdiction
- Discusses the term “reasonable expectation of a discharge to navigable waters in quantities that may be harmful”
- Addresses the storage capacity thresholds and the methods of calculating storage capacity

continued

Chapter 2
Applicability of the SPCC Rule cont.

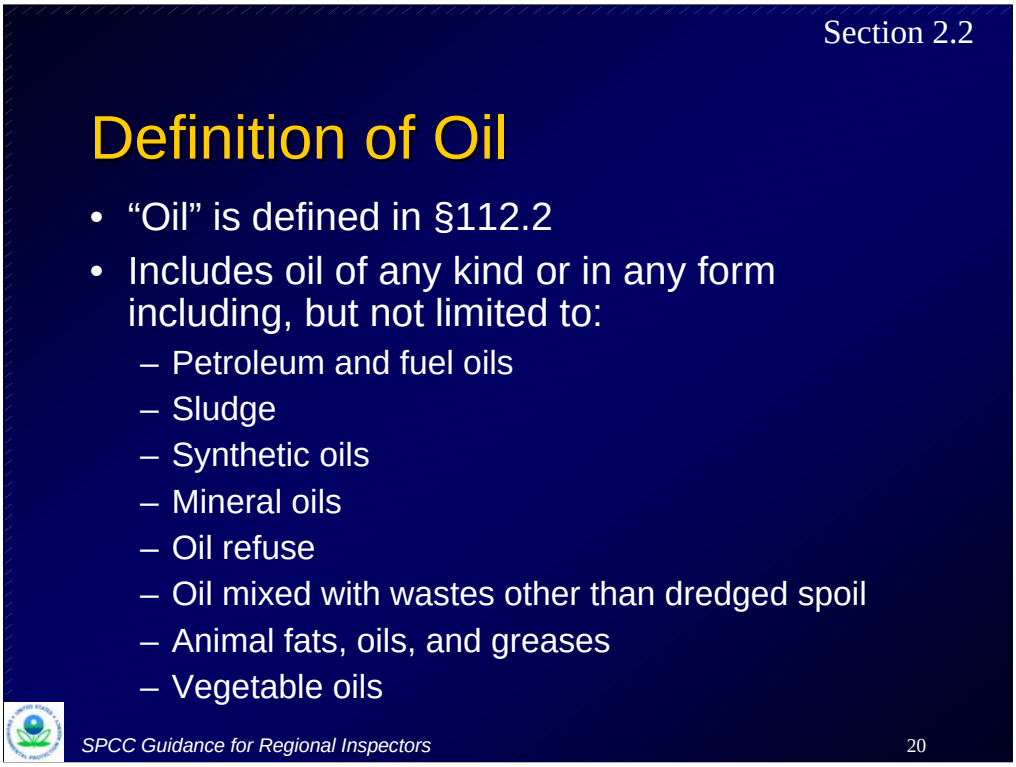
- Addresses the exemptions to the SPCC rule
- Discusses the process for a Regional Administrator to require an SPCC Plan from an otherwise exempt facility
- Addresses the applicability of the rule requirements to bulk storage containers and oil-filled equipment
- Discusses the applicability of Facility Response Plans
- Describes the role of the EPA inspector



Supplemental Information:

Section 112.1 establishes the general applicability of the SPCC rule by describing both the facilities, activities, and equipment that are subject to the rule and those that are excluded.

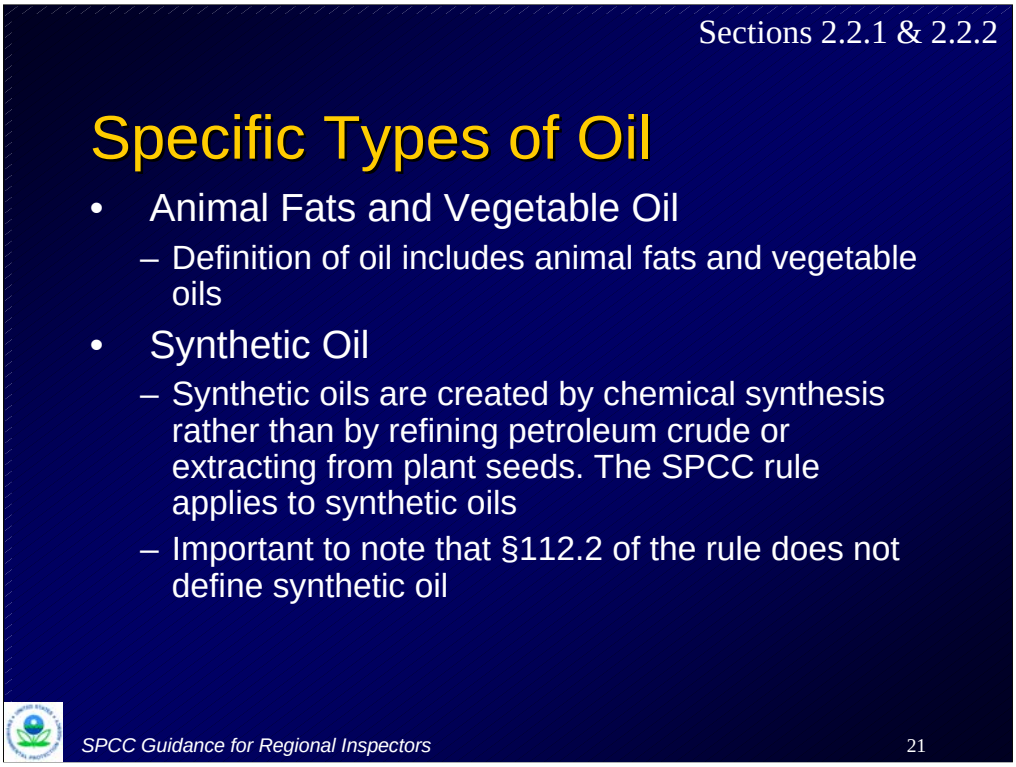
The text of 40 CFR part 110 is found in Appendix B of the guidance document.



Supplemental Information:

The SPCC rule's definition of oil originated from the Clean Water Act (CWA). Section 311(a)(1) of the CWA defines oil as "oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil." Petroleum oils include crude and refined petroleum products, asphalt, gasoline, fuel oils, mineral oils, naphtha, sludge, oil refuse, and oil mixed with wastes other than dredged spoil (67 FR 47075).

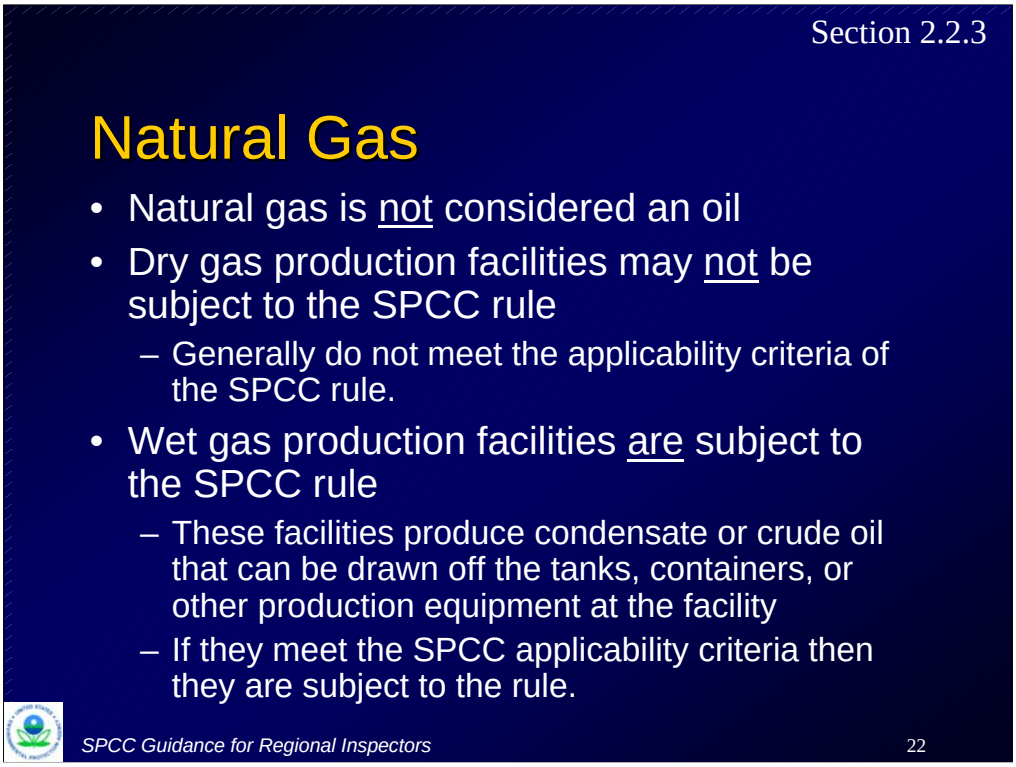
The U.S. Coast Guard (USCG) compiled a list of substances it considers oil, based on the CWA definition. The list is available on the USCG Web site. (http://www.uscg.mil/vrp/faq/oil.shtml) Note, however, that the USCG list is not comprehensive and does not define "oil" for purposes of 40 CFR part 112. EPA may determine that a substance, chemical, material, or mixture is an oil even if it is not on the USCG list.



Relevant guidance document text:

Oil covered under the SPCC regulation is further described in 40 CFR 112.2 as including "fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil." Oil includes animal fats and vegetable oils.

The SPCC rule applies to synthetic oils. Synthetic oils are used in a wide range of applications, including heat transfer fluids, engine fluids, hydraulic and transmission fluids, metalworking fluids, dielectric fluids, compressor lubricants, and turbine lubricants. Synthetic oils are created by chemical synthesis rather than by refining petroleum crude or extracting from plant seeds. The base materials from which synthetic oils are synthesized include glycols, esters, polyalphaolefins, aromatics, silicone fluids, Group III base oils, and others. Because of their origin, synthetic oils are generally covered under subpart B of 40 CFR 112, which covers "petroleum oils and *non-petroleum oils*..." Certain oils are synthesized from plant material, and thus may be considered with animal fats and vegetable oils under subpart C of 40 CFR part 112, which, as discussed below, applies to "animal fats and oils and greases, and fish and marine mammal oils; and...vegetable oils, including oils from seeds, nuts, fruits, and kernels."



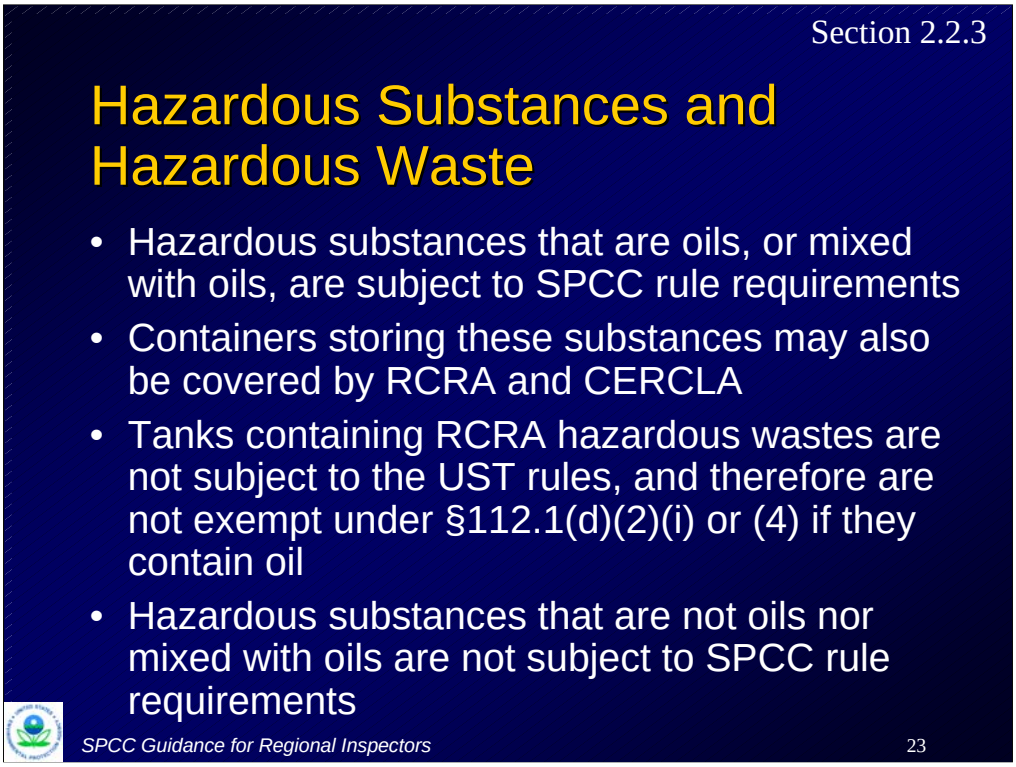
Relevant guidance document text:

Natural gas (including liquid natural gas and liquid petroleum gas) is not considered an oil. EPA does not consider highly volatile liquids that volatilize on contact with air or water, such as liquid natural gas or liquid petroleum gas, to be oil (67 FR 47076). Petroleum distillate or oil that is produced by natural gas wells and stored at atmospheric pressure and temperature (commonly referred to as condensate or drip gas), however, is considered an oil.

Dry gas production facilities are not subject to the SPCC rule. A dry gas production facility produces natural gas from a well (or wells) but does not also produce condensate or crude oil that can be drawn off the tanks, containers, or other production equipment at the facility. EPA has clarified that a dry gas production facility does not meet the description of an "oil production, oil recovery, or oil recycling facility" for which the wastewater treatment exemption would apply under §112.1(d)(6).

Wet gas production facilities are subject to the SPCC rule. In addition to natural gas, wet gas production facilities produce condensate or crude oil that can be drawn off the tanks, containers, or other production equipment at the facility. Since wet gas production facilities produce and store condensate, which is considered an oil, they are regulated under the SPCC rule.

See excerpt from "Notice Concerning Certain Issues Pertaining to the July 2002 Spill Prevention, Control, and Countermeasure (SPCC) Rule," 69 FR 29728, May 25, 2004.



Relevant guidance document text:

The definition of "oil" in §112.2 includes "oil mixed with wastes other than dredged spoil." Oils covered under the SPCC rule therefore include certain hazardous substances or hazardous wastes that are mixed with oil, as well as certain hazardous substances or hazardous wastes that are themselves oils. Containers storing these substances may also be covered by other regulations, such as the Resource Conservation and Recovery Act (RCRA), or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. Inspectors should evaluate whether containers storing hazardous substances or mixtures of wastes contain oil. Although the rule contains an exemption for completely buried tanks that are subject to all underground storage tank (UST) technical requirements of 40 CFR part 280 and/or a state program approved under part 281, tanks containing RCRA hazardous wastes are not subject to the UST rules, and therefore are not exempt under §112.1(d)(2)(i) or (4) if they contain oil.

Activities Involving Oil

- Drilling
- Producing
- Gathering
- Storing
- Processing
- Refining
- Transferring
- Distributing
- Using
- Consuming

Table 2-1 in the guidance provides examples of these activities.

Relevant guidance document text:

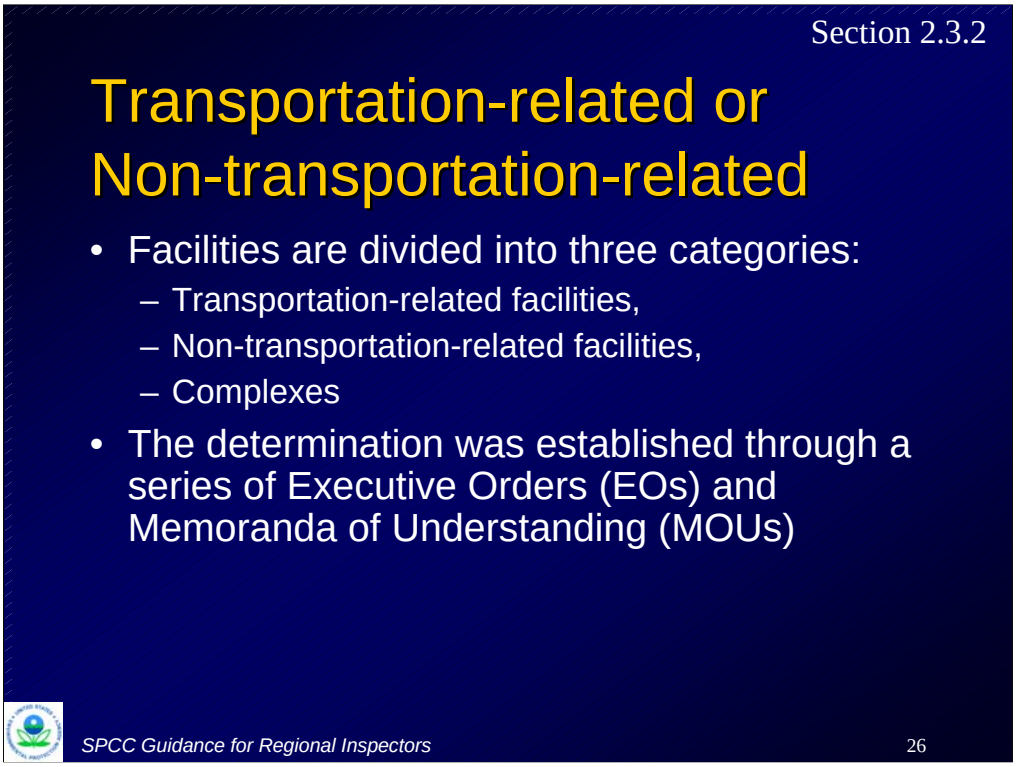
The facility owner or operator, or a Professional Engineer (PE) on behalf of the facility owner/operator, makes the determination of what constitutes the "facility." Note that the facility determination for purposes of the SPCC rule should be the same as that used to determine FRP applicability.

While the facility owner/operator has some discretion in defining the parameters of the facility, the boundaries of a facility should not be drawn to purposely avoid regulation under 40 CFR part 112. For example, two contiguous operational areas, each with 700 gallons in aboveground storage capacity, that have the same owner, perform similar functions, are attended by the same personnel, and are in other ways indistinguishable from each other, would reasonably be expected to represent a single facility under the SPCC rule, and would therefore be required to have an SPCC Plan, since the capacity of this facility is above the 1,320-gallon aboveground threshold. These two operational areas would not be defined as two separate facilities under the definition of "facility" in §112.2.

Alternatively, a single facility may be composed of various oil-containing areas spread over a relatively large campus. For instance, different operational areas within a military base may be considered a single facility. The military base may not necessarily include single-family homes occupied by military personnel as part of the facility if these are considered personal space similar to civilian single-family residences. However, the facility may include larger military barracks for which a branch of the military controls, operates, and maintains the space.

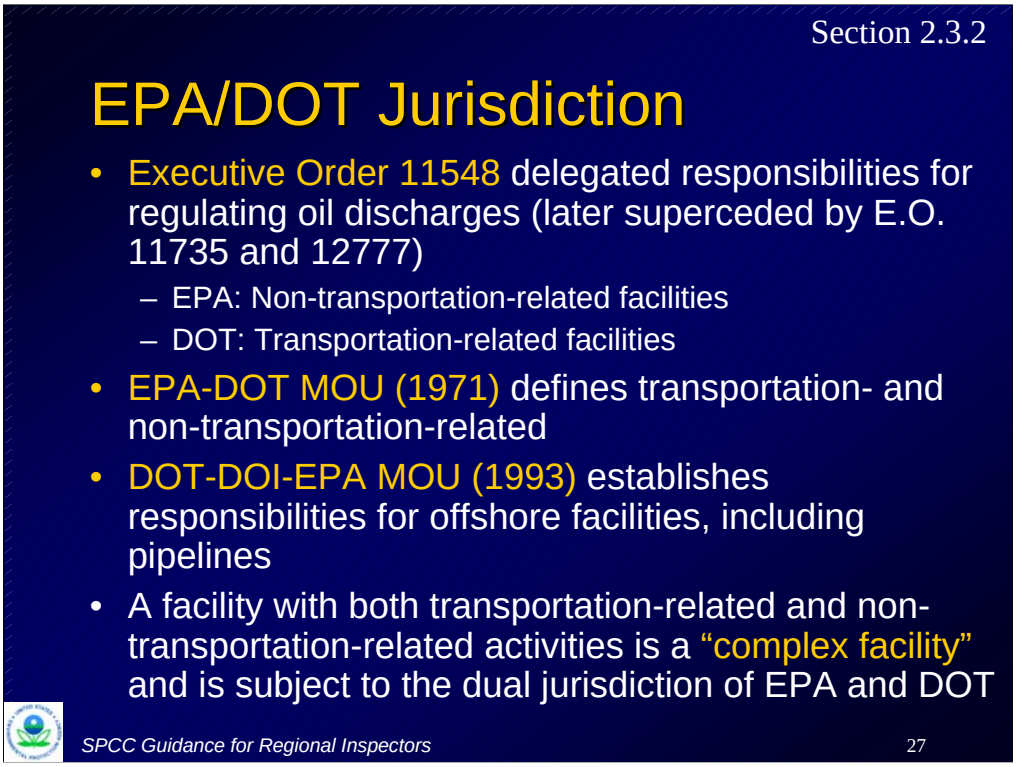
If a facility is regulated under the SPCC rule, it is the responsibility of the facility owner and operator to ensure that an SPCC Plan is prepared. A site may have multiple owners and/or operators, and therefore can have several facilities. Factors to consider in determining which owner or operator should prepare the Plan include who has control over day-to-day operations of the facility or particular containers and equipment, who trains the employee(s) involved in oil handling activities, who will conduct the required inspections and tests, and who will be responsible for responding to and cleaning up any discharge of oil. EPA expects that the owners and operators will cooperate to prepare one or more Plans, as appropriate.

SPCC facilities include not only permanent facilities with fixed storage and equipment, but also those that have only standby, temporary, and seasonal storage as described under §112.1(b)(3), as well as construction facilities. Mobile facilities are addressed in §112.3(c), which allows such facilities to create a general Plan, instead of developing a new Plan each time the facility is moved to a new location.



Relevant guidance document text:

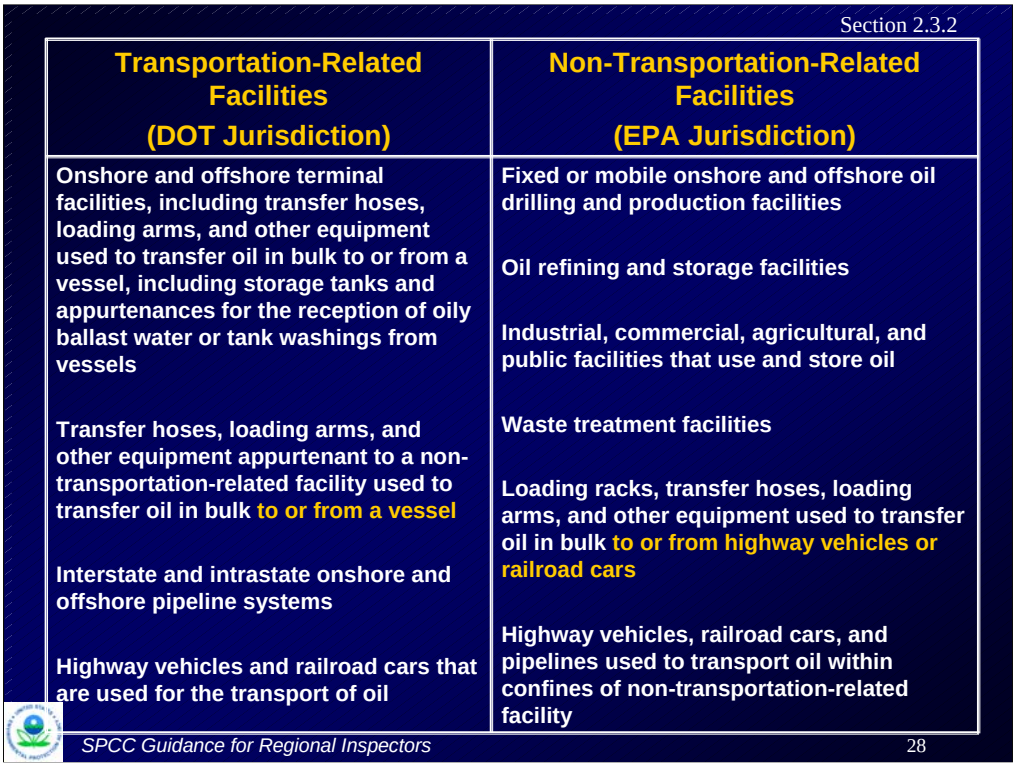
Onshore and certain offshore non-transportation-related facilities (and portions of a complex) are subject to the SPCC regulation, provided they meet the other applicability criteria set forth in §112.1. A facility with both transportation-related and non-transportation-related activities is a "complex" and is subject to the dual jurisdiction of EPA and DOT. The jurisdiction over a component of a complex is determined by the activity occurring at that component. An activity might at one time subject a facility to one agency's jurisdiction, and a different activity at the same facility using the same structure or equipment might subject the facility to the jurisdiction of another agency. Which activity would be subject to EPA jurisdiction and which activity would be subject to DOT jurisdiction is defined by the 1971 DOT-EPA MOU.



Relevant guidance document text:

A 1971 MOU between EPA and DOT clarifies the types of facilities, activities, equipment, and vessels that are meant by the terms "transportation-related onshore and offshore facilities" and "non-transportation-related onshore and offshore facilities." DOT delegated authority over vessels and transportation-related onshore and offshore facilities to the Commandant of the U.S. Coast Guard. [The USCG was reorganized under the Department of Homeland Security in March 2003.] Sections of the MOU between EPA and DOT are included in Appendix A of 40 CFR part 112. Section 112.1(d)(1)(ii) specifically exempts from SPCC applicability any equipment, vessels, or facilities subject to the authority and control of the DOT as defined in this MOU.

A 1994 MOU among the Secretary of the Interior, the Secretary of Transportation, and the Administrator of EPA establishes the jurisdictional responsibilities for offshore facilities, including pipelines. This MOU can be found in Appendix B of 40 CFR part 112. Section 112.1(d)(1)(iii) specifically exempts from SPCC applicability any equipment, vessels, or facilities subject to the authority of the DOT or DOI as defined in this MOU.



Relevant guidance document text:

Table 2-2 provides examples of transportation-related and non-transportation-related facilities as the concepts apply to the SPCC rule applicability. Some equipment, such as loading arms and transfer hoses, may be considered either transportation-related or non-transportation-related depending on their use

Jurisdiction Scenarios

Tank Trucks

- EPA regulates tank trucks as “mobile/portable containers” if they operate within the confines of a non-transportation-related facility

Relevant guidance document text:

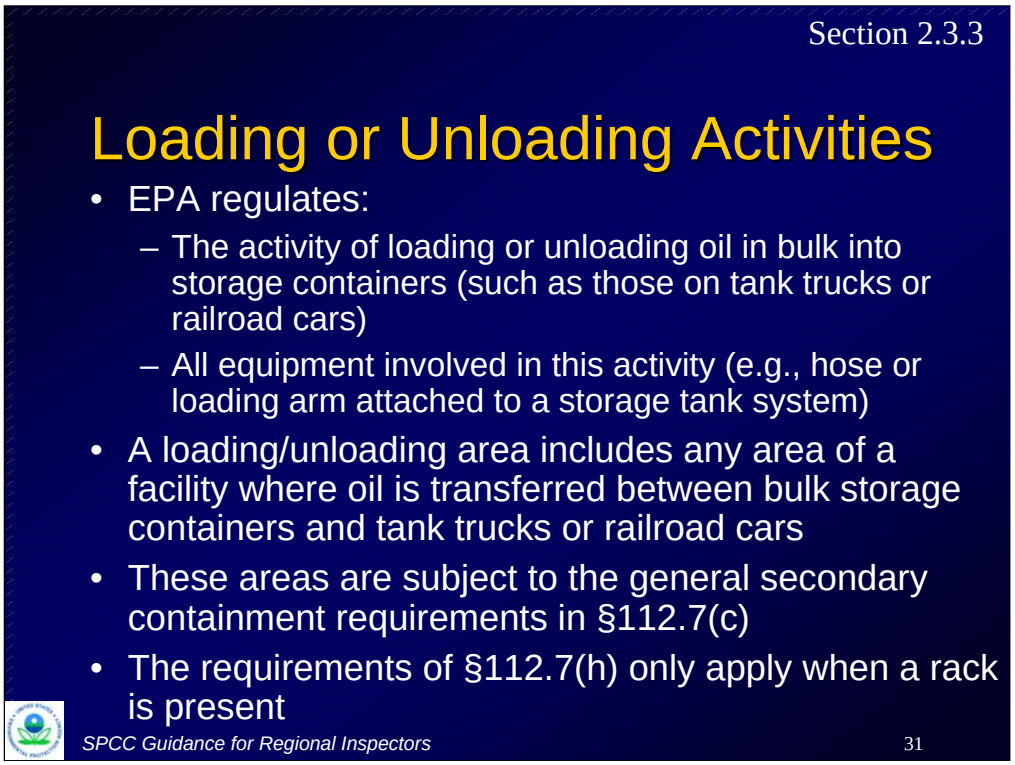
EPA regulates tank trucks as “mobile/portable containers” under the SPCC rule if they operate exclusively within the confines of a non-transportation-related facility. For example, a tank truck that moves around within the facility and only leaves the facility to obtain more fuel (oil) would be considered to distribute fuel exclusively at one facility. This tank truck would be subject to the SPCC rule if it, or the facility, contained above the regulatory threshold amount (see Section 2.5 of this document) and there was a reasonable expectation of discharge to navigable waters or adjoining shorelines. Similarly, an airport refueler or construction refueler that fuels exclusively at one site would be subject to the SPCC rule. However, if the tank truck distributed fuel to multiple off-site facilities, the tank truck would be transportation-related, and regulated by DOT.

Tank trucks that are used in interstate or intrastate commerce can also be regulated if they are operating in a fixed, non-transportation mode. For example, if a home heating oil truck makes its deliveries, returns to the facility, and parks overnight with a partly filled fuel tank, it is subject to the SPCC rule if it, or the facility has a capacity above the threshold amount (see Section 2.5 of this document), and there is a reasonable expectation of discharge to navigable waters or shorelines. However, if the home heating oil truck’s fuel tank contains no oil when it is parked at the facility, other than any residual oil present in an emptied vehicle, it would be regulated only by DOT. For more information, refer to Chapter 4 of this document (Secondary Containment and Impracticability Determinations), which discusses secondary containment requirements.

Relevant guidance document text:

DOT regulates railroad cars from the time the oil is offered for transportation to a carrier until the time that it reaches its destination and is accepted by the consignee. DOT jurisdiction includes railroad cars that are passing through a facility or are temporarily stopped on a normal route. EPA regulates railroad cars after the transportation process ends; that is, when the railroad cars are serving as non-transportation-related storage at an SPCC-regulated facility. EPA jurisdiction includes railroad cars that are at their final destination, and/or if loading or unloading has begun. If loading/unloading has begun, the railroad car itself may become the non-transportation-related facility even if no other containers at the property would qualify the property. To be considered a non-transportation-related facility, the railroad car must store oil in an amount above the regulatory threshold, and there must be a reasonable expectation of discharge to navigable waters (§112.1(d)). EPA addressed the applicability of the SPCC rule to railroad cars by addressing specific scenarios in a letter to the Safety-Kleen Corporation in July 2000. See Appendix H.

EPA regulates railroad cars under the SPCC rule if they are operating exclusively within the confines of a non-transportation facility. A railroad car would be subject to the SPCC rule if it, or the facility, had a capacity above the regulatory threshold amount of oil, and there was a reasonable expectation of discharge to navigable waters or adjoining shorelines.



Relevant guidance document text:
EPA regulates the activity of loading or unloading oil in bulk into storage containers (such as those on tank trucks or railroad cars), as well as all equipment involved in this activity (e.g., a hose or loading arm attached to a storage tank system). A "loading/unloading area" is any area of a facility where oil is transferred between bulk storage containers and tank trucks or railroad cars. These areas are subject to the general secondary containment requirements in §112.7(c). If a "loading/unloading rack" is present, the requirements of §112.7(h) apply to the loading/unloading rack area. For more information, refer to Chapter 4 of this document (Secondary Containment and Impracticability Determinations), which includes a discussion of secondary containment requirements for loading/unloading areas.

Section 2.3.3

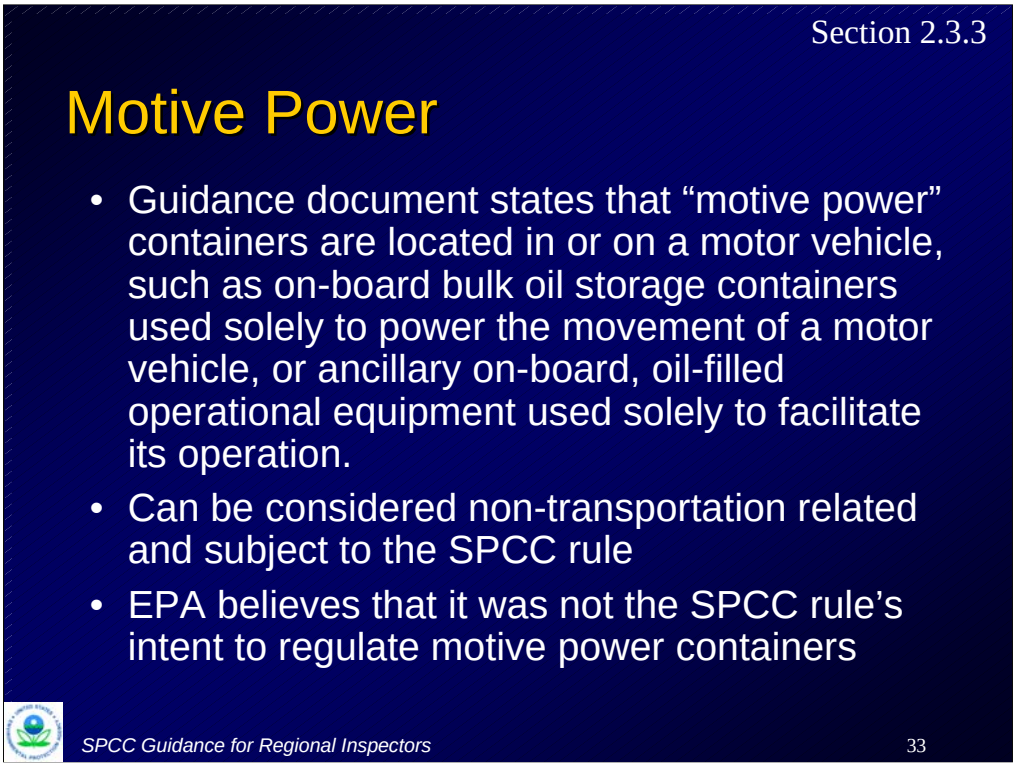
Marine Terminals and Vessels

	Coast Guard Regulates:	EPA Regulates:
Marine Terminals	Pier structure, transfer hoses, hose piping connection, containment controls and transfer piping	Tanks, internal piping, loading racks, and vehicle/rail operations that are within the non-transportation part of the facility
Vessels	Loading or unloading of oil from a vessel to an onshore facility, oil-carrying ship and the connecting piping	When oil passes the first valve inside secondary containment

Relevant guidance document text:

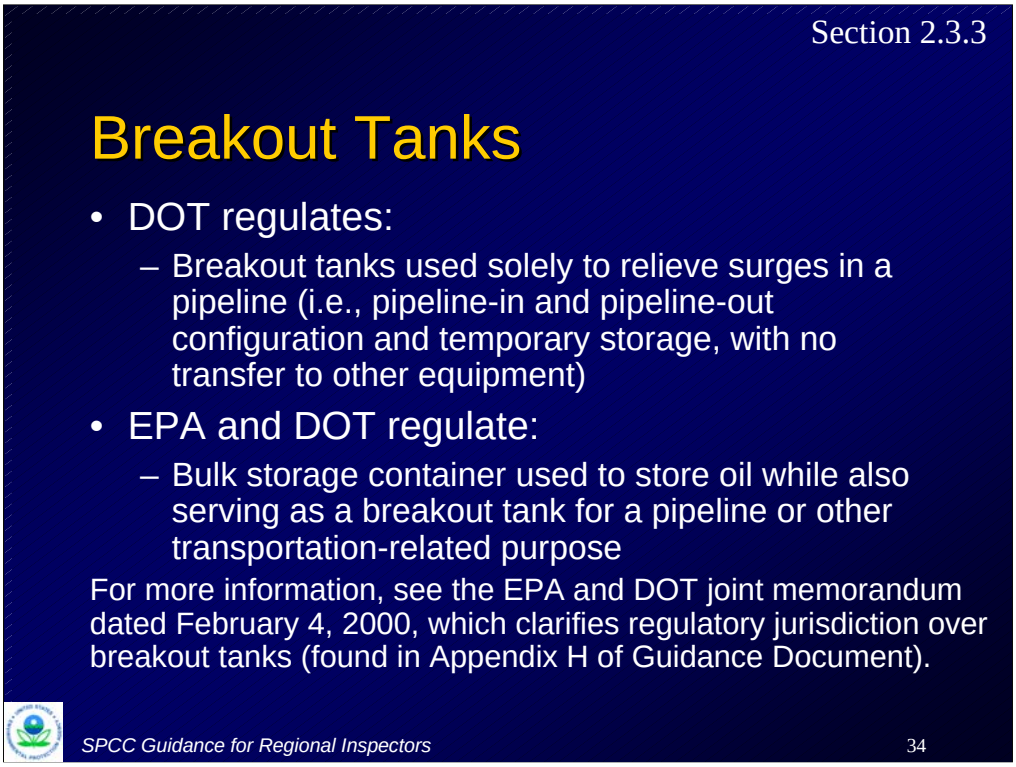
A marine terminal is an example of a “complex” that is subject to U.S. Coast Guard (USCG) and EPA jurisdiction. The USCG regulates the pier structures, transfer hoses, hose-piping connection, containment, controls, and transfer piping associated with the transfer of oil between a vessel and an onshore facility. EPA regulates the tanks, internal piping, loading racks, and vehicle/rail operations that are completely within the non-transportation portion of the facility (33 CFR part 154, Facilities Transferring Oil or Hazardous Material in Bulk). EPA jurisdiction begins at the first valve inside secondary containment. If there is no secondary containment, EPA jurisdiction begins at the valve or manifold adjacent to the storage tank (33 CFR 154.1020).

The U.S. Coast Guard regulates the loading or unloading of oil from a vessel to an onshore facility, as well as the oil-carrying ship and the connecting piping (33 CFR part 155, Oil or Hazardous Material Pollution Prevention Regulations for Vessels). In this scenario, a vessel is a ship or a barge. The oil passes from the USCG’s jurisdiction to that of the EPA when it passes the first valve of the secondary containment for the storage container. If there is no secondary containment, EPA’s jurisdiction begins at the first valve or manifold closest to the storage container. Storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels are under USCG jurisdiction.



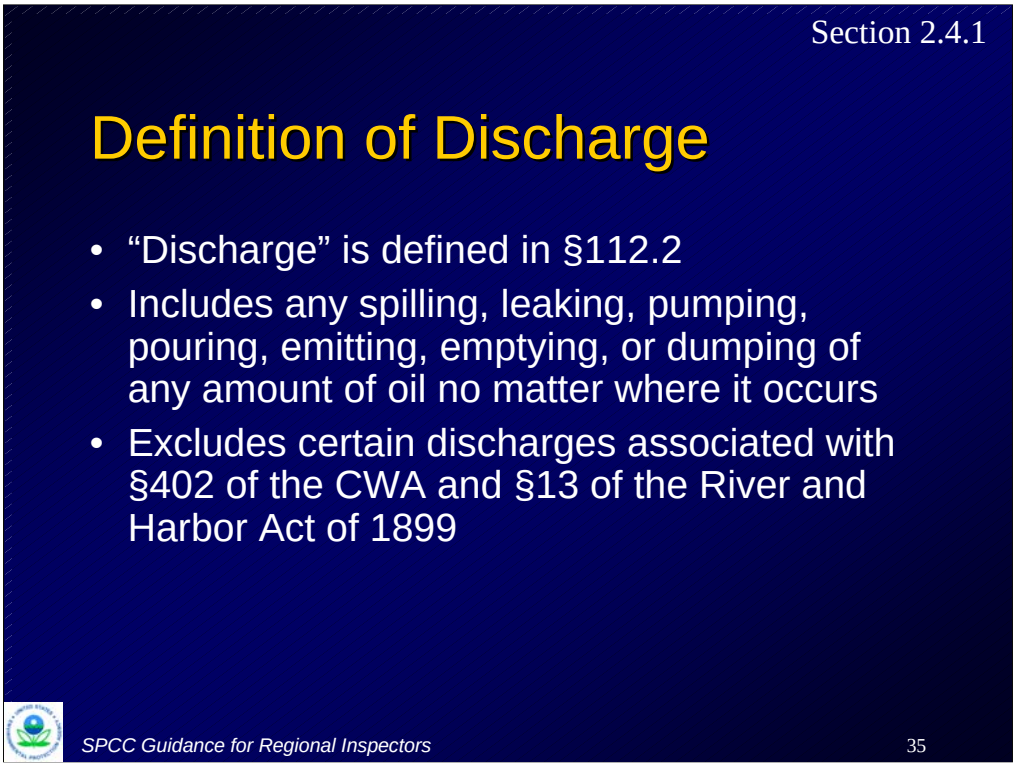
Relevant guidance document text:

Motive power containers are located in or on a motor vehicle, such as on-board bulk oil storage containers used solely to power the movement of a motor vehicle, or ancillary on-board, oil-filled operational equipment used solely to facilitate its operation. A motive power container can be considered non-transportation-related and subject to the SPCC rule. However, EPA does not believe that the intent of the SPCC rule was to regulate motive power containers, including oil-filled tanks used to fuel the propulsion of vehicles, such as buses, sport utility vehicles, construction vehicles, and farm equipment.



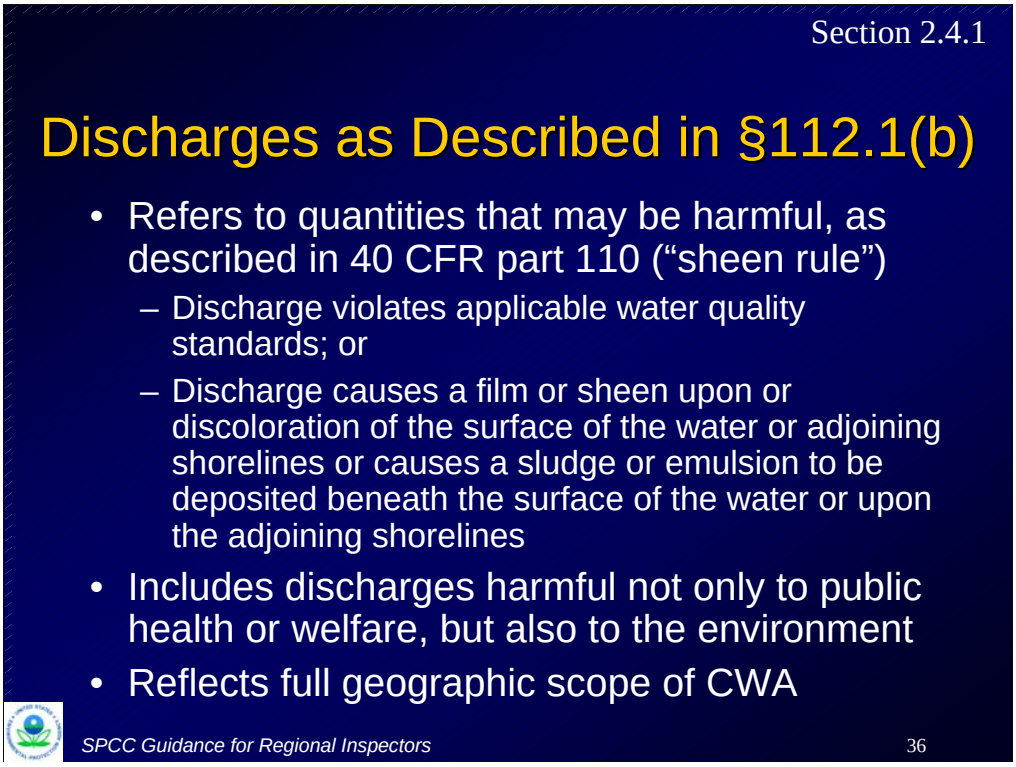
Relevant guidance document text:

Breakout tanks are usually used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline. They are also sometimes used for bulk storage. A breakout tank may be regulated by EPA, DOT, or both depending on how the tank is used. For example, breakout tanks that are used solely to relieve surges in a pipeline and are not used for any non-transportation-related activity (i.e., pipeline-in and pipeline-out configuration, with no transfer to other equipment/mode of transportation such as a tank truck), would be subject to DOT jurisdiction. A bulk storage container used to store oil while also serving as a breakout tank for a pipeline or other transportation-related purpose would be subject to both DOT and EPA jurisdiction. For more information, see the EPA and DOT joint memorandum dated February 4, 2000, which clarifies regulatory jurisdiction over breakout tanks.



Relevant guidance document text:

Section 311 of the CWA defines and prohibits certain discharges of oil. These requirements are also codified in 40 CFR part 112. As defined in §112.2, a "discharge" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of any amount of oil no matter where it occurs. It excludes certain discharges associated with §402 of the CWA and §13 of the River and Harbor Act of 1899. The primary distinction between the §112.2 and §112.1(b) definitions of discharge is that a discharge as described in §112.1(b) is a violation of §311 of the Clean Water Act, whereas a §112.2 discharge (i.e., one that does not impact a navigable water or adjoining shoreline) is not a violation. For example, if a tank leaks a puddle of oil into a facility's basement, this would be considered a discharge of oil, but is not necessarily a violation of the CWA because the oil did not reach a navigable water or adjoining shoreline (and would not be a discharge as described in §112.1(b)).



Relevant guidance document text:

According to §112.1(b), the SPCC rule applies to facilities that could reasonably be expected to discharge oil in “quantities that may be harmful, as described in part 110 of this chapter...” The Discharge of Oil regulation at 40 CFR part 110 (also referred to as the “sheen rule”) defines a discharge of oil into or upon the navigable waters of the United States or adjoining shorelines in quantities that may be harmful under the CWA as that which:

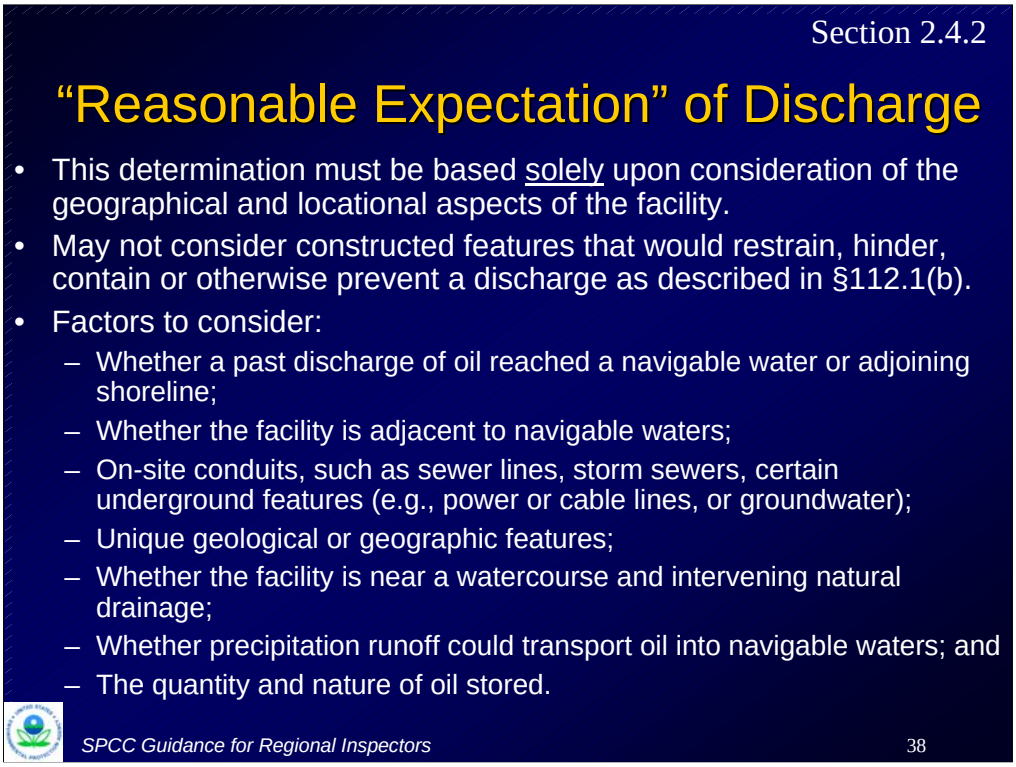
- Causes a sheen or discoloration on the surface of the water or adjoining shorelines
- Causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines; or
- Violates an applicable water quality standard.

A discharge meeting any of the above criteria triggers requirements to report to the National Response Center (NRC). The failure to report such a discharge may result in criminal sanctions under the CWA. The appearance of a “sheen” on the surface of the water is often used as a simple way to identify harmful discharges of oil that should be reported. The appearance of a sheen, however, is not a necessary factor; the presence of a sludge or emulsion, or of another deposit of oil beneath the water surface, or the violation of an applicable water quality standard also indicates a harmful discharge.

Discharge Distinction

Difference between “discharge” and “discharge as described in §112.1(b)”:

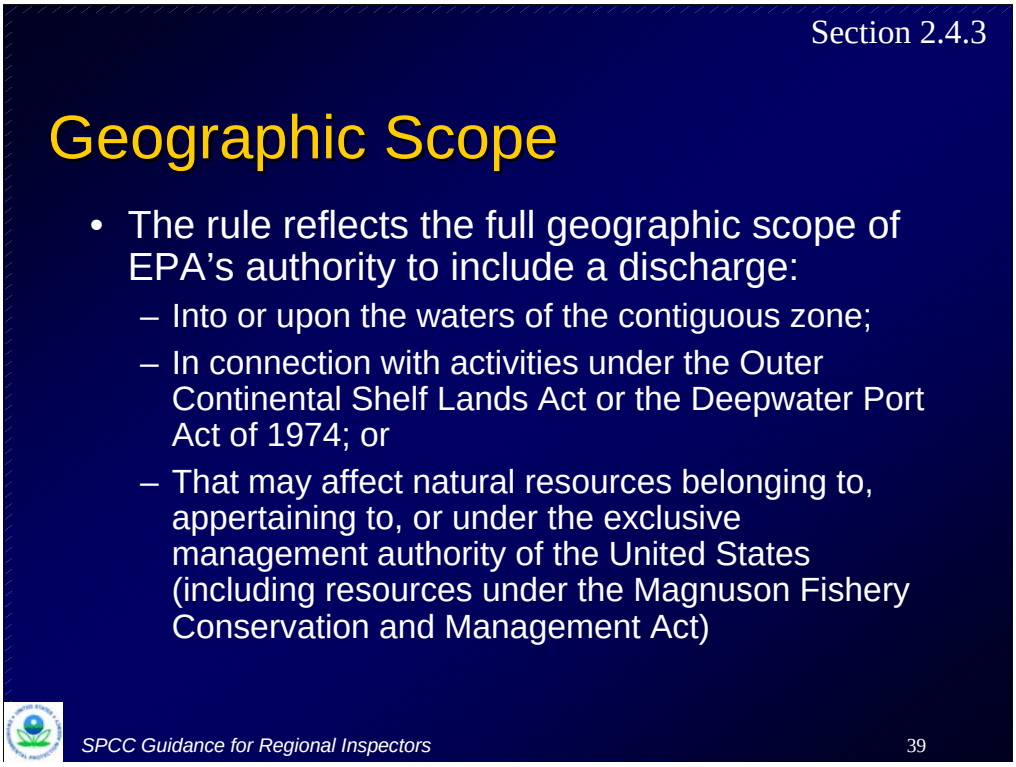
- A discharge as described in §112.1(b) is a violation of Section 311 of the Clean Water Act
- A §112.2 discharge that does not impact a navigable water or adjoining shoreline (e.g., a spill into a dike or berm) is not a violation of Section 311 of the Clean Water Act



Relevant guidance document text:

The SPCC rule applies only to facilities that, due to their location, can reasonably be expected to discharge oil as described in §112.1(b). The rule does not define the term "reasonably be expected." The owner or operator of each facility must determine the potential for a discharge from his/her facility. According to §112.1(d)(1)(i), this determination must be based solely upon consideration of the geographical and locational aspects of the facility. An owner or operator should consider the location of the facility in relation to a stream, ditch, gully, or storm sewer; the volume of material likely to be spilled; drainage patterns; and soil conditions. An owner or operator may not consider constructed features, such as dikes, equipment, or other manmade structures that prevent, contain, hinder, or restrain a discharge as described in §112.1(b), when making this decision.

A facility owner or operator, however, should consider the presence of manmade structures that may serve to convey discharged oil to navigable waters, such as sanitary or storm water drainage systems, even if they lead to a publicly owned treatment work (POTW) prior to ultimate discharge into navigable waters. The presence of a treatment system such as a POTW cannot be used to determine that the facility is not reasonably expected to discharge to navigable waters or adjoining shorelines. POTWs can fail to contain oil. They are not designed to handle oil discharges and are on occasion forced to bypass to receiving waterbodies during extreme weather events or when upsets occur in the treatment system.

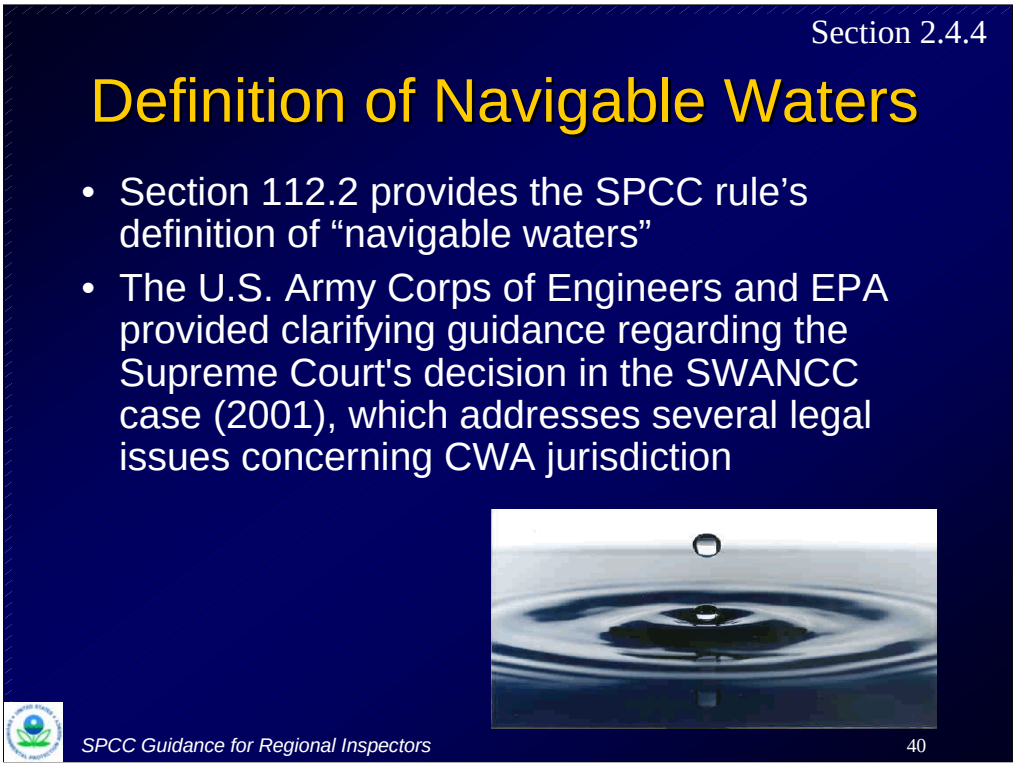


Relevant guidance document text:

EPA revised the geographic scope of the SPCC regulation in 2002 to be more consistent with the CWA. Formerly, the geographic scope of the rule extended to navigable waters of the United States and adjoining shorelines. The rule reflects the full geographic scope of EPA's authority to include a discharge:

- Into or upon the waters of the contiguous zone;
- In connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974; or
- That may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

The rule's scope includes discharges harmful not only to the public health and welfare, but also to the environment through the protection of natural resources. Such protection would apply to resources under the Magnuson Fishery Conservation and Management Act, a statute that establishes exclusive U.S. management authority over all fishing within the exclusive economic zone (inner boundary coterminous with the seaward boundary of each coastal state), and all anadromous fish throughout their migratory range except when in a foreign nation's waters, and all fish on the continental shelf.



Supplemental Information:

See "Joint Memorandum of U.S. Army Corps of Engineers and EPA providing clarifying guidance regarding the Supreme Court's decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, 531 U.S. 159 (2001) (SWANCC))," 68 FR 1995, January 15, 2003.

Rule Text

§112.2

Navigable waters means the waters of the United States, including the territorial seas.

(1) The term includes:

(i) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;

(ii) All interstate waters, including interstate wetlands;

(iii) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:

(A) That are or could be used by interstate or foreign travelers for recreational or other purposes; or

(B) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or,

(C) That are or could be used for industrial purposes by industries in interstate commerce;

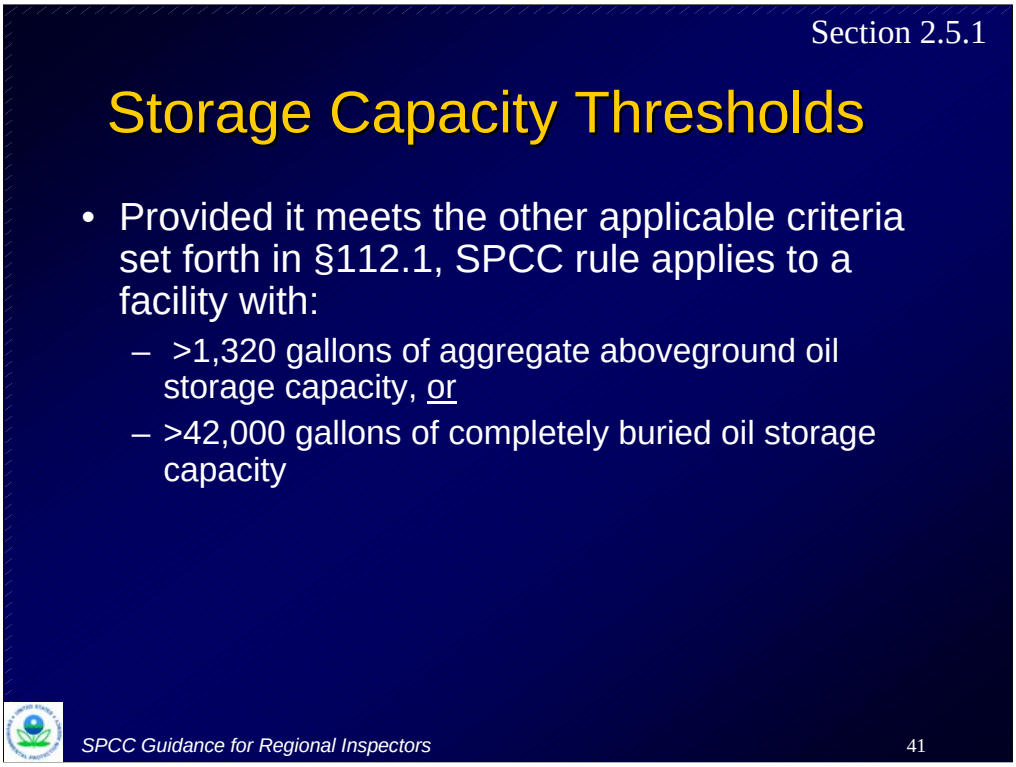
(iv) All impoundments of waters otherwise defined as waters of the United States under this section;

(v) Tributaries of waters identified in paragraphs (1)(i) through (iv) of this definition;

(vi) The territorial sea; and

(vii) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (1) of this definition.

(2) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds which also meet the criteria of this definition) are not waters of the United States. Navigable waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.



Relevant guidance document text:

According to §112.1(b)(1) through (4), the rule is applicable to eligible facilities that have oil in aboveground containers; completely buried tanks; containers that are used for standby storage, for seasonal storage, or for temporary storage, or are not otherwise "permanently closed"; and "bunkered tanks" or "partially buried tanks" or containers in a vault. Containers include not only oil storage tanks, but also mobile or portable containers such as drums and totes, and oil-filled equipment such as electrical equipment (e.g., transformers, circuit breakers), manufacturing flow-through process equipment, and operational equipment. However, §112.1(d)(2) limits the applicability to facilities with oil capacity above specific threshold amounts.

Once a facility is subject to the rule, *all* aboveground containers and completely buried tanks are subject to the rule requirements (unless these containers are otherwise exempt from the regulation, as is the case for containers smaller than 55 gallons). For example, a facility could have 10,000 gallons of aggregate aboveground storage capacity in tanks and oil-filled equipment of 55 gallons or more, and a completely buried tank of 10,000 gallons that is not subject to all of the technical requirements of 40 CFR part 280 or a state program approved under part 281 (and therefore not exempt). Since the aboveground storage capacity exceeds 1,320 gallons, all of the tanks and oil-filled equipment, including the buried tank, are subject to the SPCC rule.

Rule Text

§112.1(d)

Except as provided in paragraph (f) of this section, this part does not apply to: ...

(2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:

(i) The completely buried storage capacity of the facility is 42,000 gallons or less of oil. ...

(ii) The aggregate aboveground storage capacity of the facility is 1,320 gallons or less of oil. ...

Section 2.5.2

Storage Capacity Calculation

Included in storage capacity	*Excluded from storage capacity*
Capacity of containers (e.g. bulk storage containers, oil-filled equipment, mobile/portable containers, etc.) with a capacity of 55 gallons or greater.	Capacity of completely buried tanks and associated underground piping, ancillary equipment, and containment systems that are subject to all technical requirements of 40 CFR part 280 *or* 281. Capacity of tanks used exclusively for wastewater treatment.
	Capacity of containers that are permanently closed.

SPCC Guidance for Regional Inspectors 42

Relevant guidance document text:

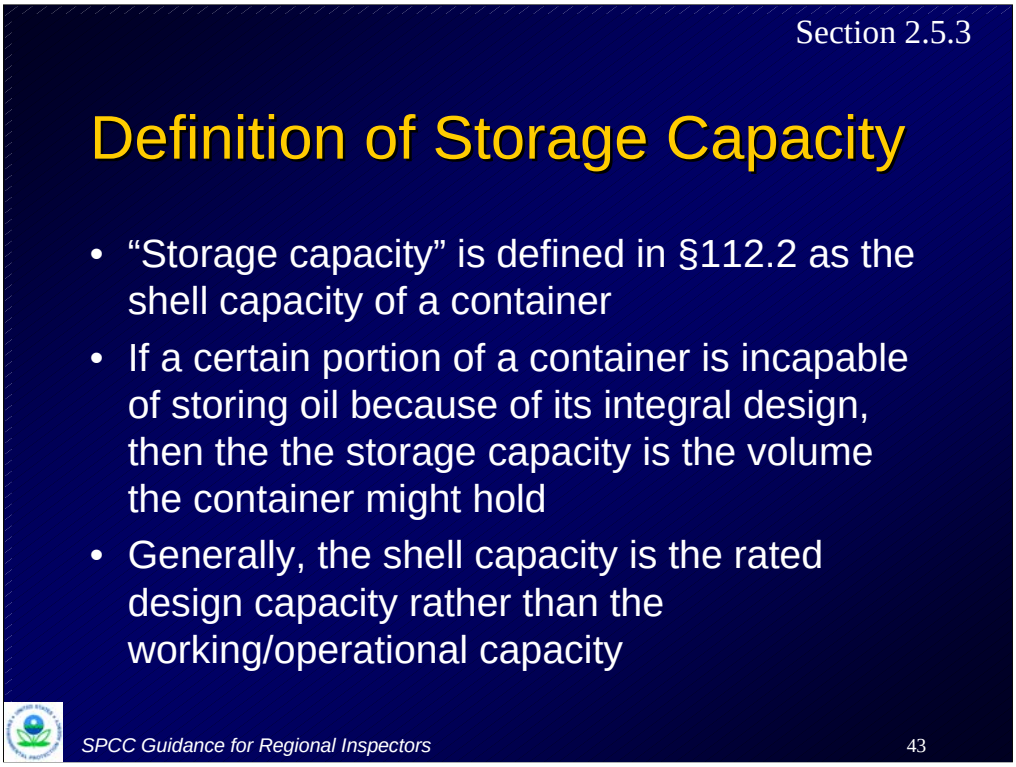
What to Count

• All containers of oil with a capacity of 55 gallons or greater are to be counted (unless listed below) when calculating total oil storage capacity at a facility.

What Not to Count

• Permanently closed containers are not counted when calculating total oil storage capacity. "Permanently closed," as defined in §112.2, refers to containers "for which (1) All liquid and sludge has been removed from each container and connecting line; and (2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure."

• Completely buried tanks, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems that are currently subject to all of the technical requirements of 40 CFR part 280 or all of the technical requirements of a state program approved under 40 CFR part 281 are not counted. Such tanks must still be marked on the facility diagram as provided in §112.7(a)(3). "Completely buried tank" as defined in §112.2 refers to "any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part."



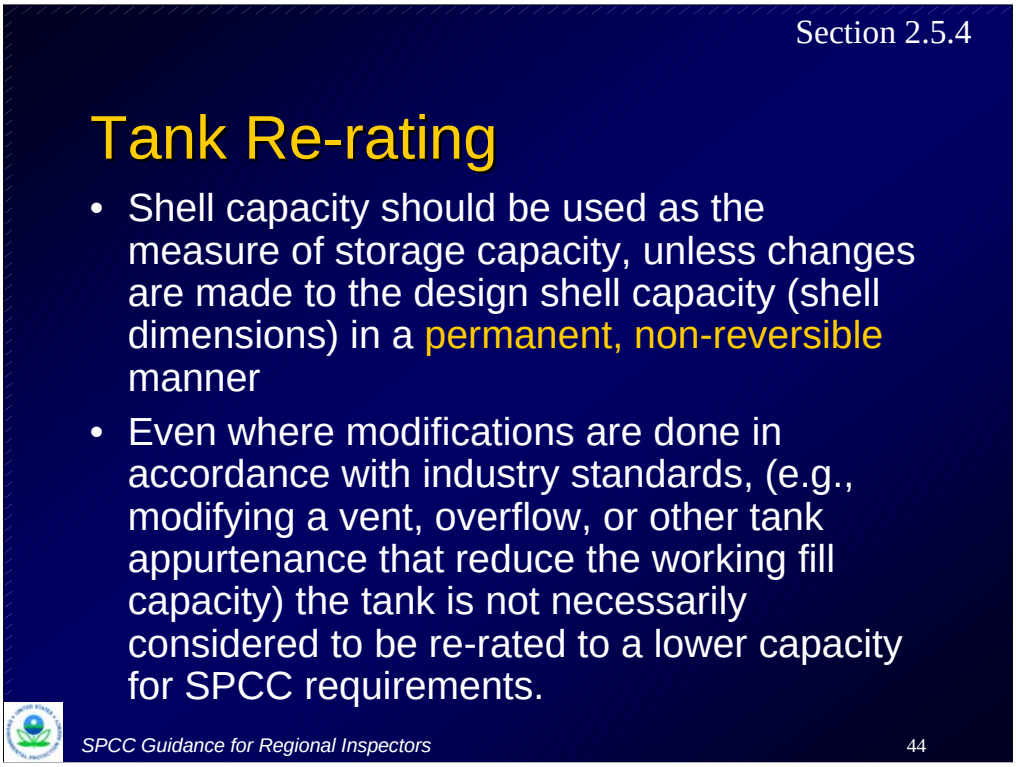
Relevant guidance document text:

Under the SPCC rule, if a container has the requisite capacity, it does not matter whether the container is actually filled to that capacity. The storage capacity of a container is defined as the shell capacity of the container. If a certain portion of a container is incapable of storing oil because of its integral design (e.g., mechanical equipment or other interior components take up space), then the shell capacity of the container is reduced to the volume the container might hold (67 FR 47081). Generally, the shell capacity is the rated design capacity rather than the working/operational capacity.

Rule Text

§112.2

Storage capacity of a container means the shell capacity of the container.



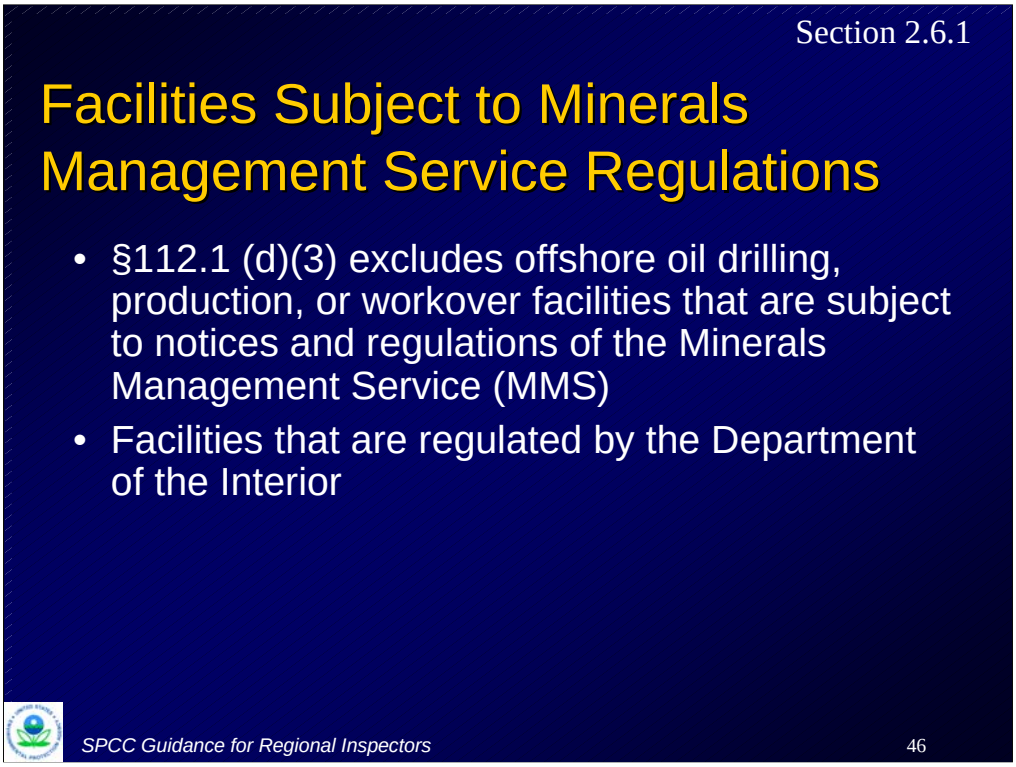
Relevant guidance document text:

Shell capacity should be used as the measure of storage capacity, unless changes are made to the design shell capacity in a permanent, non-reversible manner. For example, when the integral design of a container has been altered by actions such as drilling a hole in the side of the container so that it cannot hold oil above that point, shell capacity remains the measure of storage capacity because such alteration can be altered again at will to restore the former storage capacity. When the alteration is an action such as the installation of a double bottom or new floor to the container, the integral design of the container has changed, and may result in a reduction in shell capacity.

An addition or modification to a field-erected storage tank should be performed in accordance with industry standards and the original design specifications. Relevant industry standards include American Petroleum Institute (API) Standard 653 “Tank Inspection, Repairs, Alteration, and Reconstruction” (API-653). This standard includes additions or modifications to shell penetrations such as overfill diverters. However, even where such modifications are done in accordance with standards, the tank may not be considered re-rated to a lower capacity; the capacity remains equal to the original rated shell capacity. An owner or operator may reduce the capacity of a tank only by changing the shell dimensions (i.e., by removing shell plate sections). Since SPCC requirements are based on shell capacity, modifying a vent, overflow, or other tank appurtenances that reduce the working fill capacity does not affect SPCC requirements, including facility capacity determination and secondary containment requirements.

Exemptions to the Requirements of the SPCC Rule

- Facilities Subject to Minerals Management Service Regulations
- Underground Storage Tanks
- Wastewater Treatment Facilities



Relevant guidance document text:

Section 112.1(d)(3) excludes offshore oil drilling, production, or workover facilities that are subject to notices and regulations of the Minerals Management Service (MMS). MMS regulations require adequate spill prevention, control, and countermeasures that are directed more specifically to the facilities subject to the regulations. The facilities are regulated by the Department of Interior as specified in the DOI-DOT-EPA MOU (40 CFR part 112, Appendix B).

Rule Text

§112.1(d)

Except as provided in paragraph (f) of this section, this part does not apply to: ...

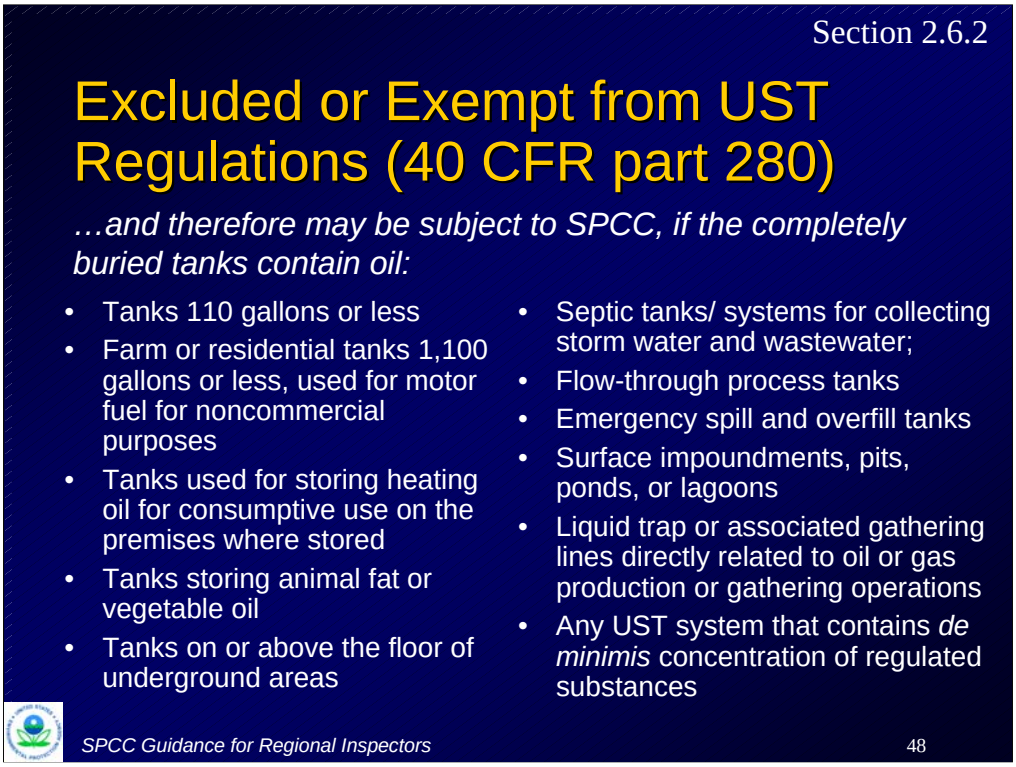
(3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

Rule Text

§112.1(d)

Except as provided in paragraph (f) of this section, this part does not apply to: ...

(4) Any completely buried storage tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of this chapter, except that such a tank must be marked on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.

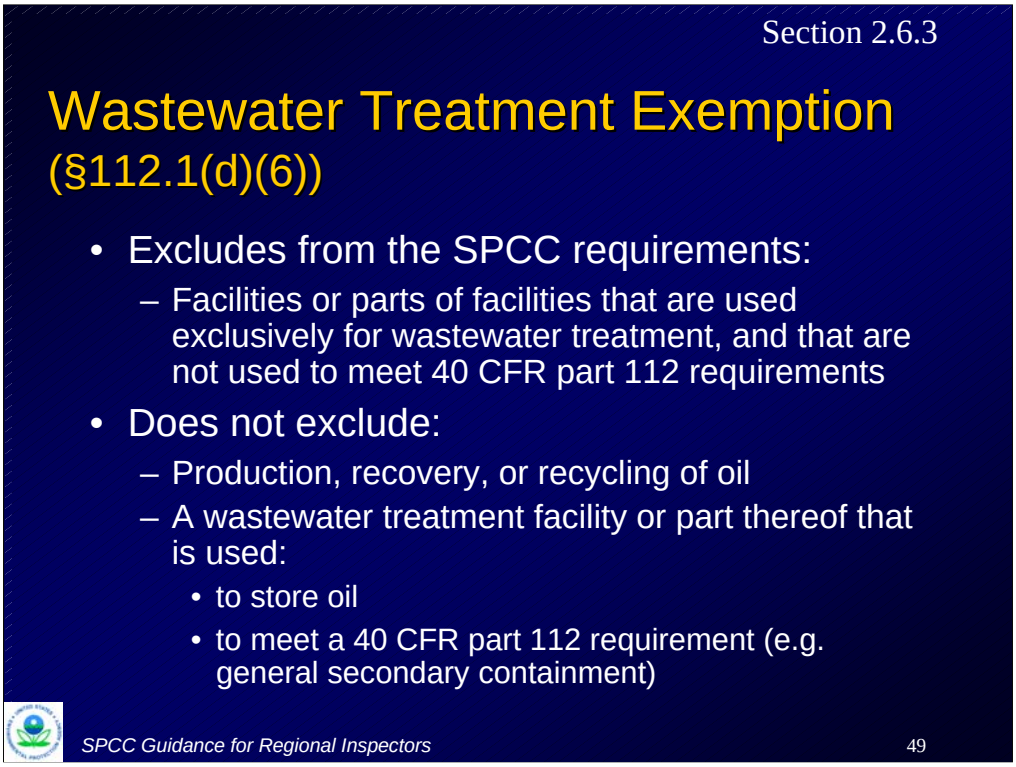


Relevant guidance document text:

The following are examples of deferrals from the UST regulations (and therefore may be subject to the SPCC rule):

- Wastewater treatment tank systems;
- Any UST systems containing radioactive materials that are regulated under the Atomic Energy Act of 1954;
- UST systems that are part of emergency generator systems at nuclear power generation facilities;
- Airport hydrant fuel distribution systems; and
- UST systems with field-constructed tanks.

Note that additional and/or more stringent requirements may exist in a state-approved program under 40 CFR part 281 and that they may also impact SPCC applicability. For example, a state may choose to regulate a UST used for storing heating oil for consumptive use on the premises where stored. Thus, under the state program the UST is subject to all the technical requirements of a 40 CFR part 281 program and not regulated by the SPCC rule. Inspectors should consider any state UST program approved under 40 CFR part 281 when addressing applicability issues associated with completely buried tanks.



Relevant guidance document text:

Many of the wastewater treatment facilities or parts thereof are subject to the National Pollutant Discharge Elimination System (NPDES) or equivalent permitting requirements that involve operating and maintaining the facility to prevent discharges. The NPDES or state-equivalent process ensures review and approval of the facility's plans and specifications; operation/maintenance manuals and procedures; and Storm Water Pollution Prevention Plans, which may include Best Management Practice (BMP) Plans (67 FR 47068).

For the purposes of the exemption, the production, recovery, or recycling of oil is not considered wastewater treatment. These activities generally lack NPDES or state-equivalent permits and thus lack the protections that such permits provide. Additionally, the goal of an oil production, oil recovery, or oil recycling facility is to maximize the production or recovery of oil, while eliminating impurities in the oil, including water, whereas the goal of a wastewater treatment facility is to purify water (67 FR 47068-69).

The exemption does not apply to a wastewater treatment facility or part thereof that is used to store oil; in that instance, the oil storage capacity must be counted as part of the total facility storage capacity (see 67 FR 47068). For example, if there is a 600-gallon storage container that contains oil removed from an exempt oil/water separator and a 1,000-gallon storage container on site, the total aboveground storage capacity for the facility would be 1,600 gallons, and the facility may potentially be regulated by the SPCC rule.

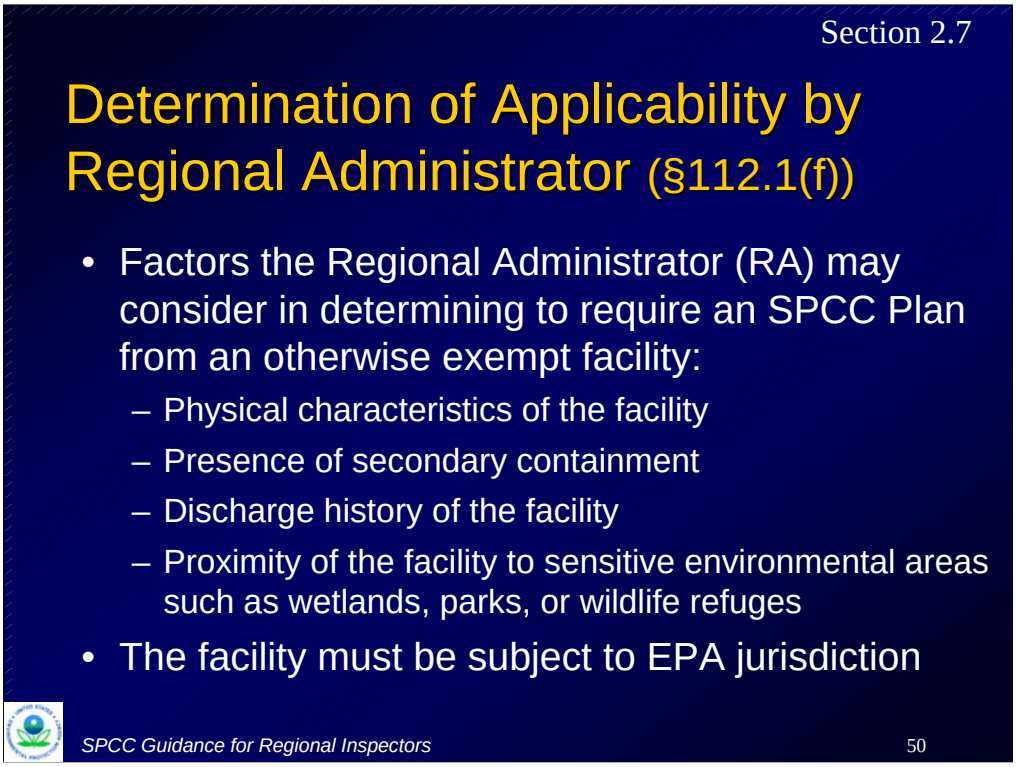
In addition, the exemption does not apply to a wastewater treatment facility or parts thereof used to meet a 40 CFR part 112 requirement, including an oil/water separator used to meet any SPCC requirement. Examples of oil/water separators that are used to meet SPCC requirements include oil/water separators used to satisfy the secondary containment requirements of §112.7(c), §112.7(h)(1), and/or §112.8(c)(2). Oil/water separators used to satisfy secondary containment requirements of the rule do not count toward storage capacity.

Rule Text

§112.1(d)

Except as provided in paragraph (f) of this section, this part does not apply to: ..

(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.



Rule Text

§112.1(f) Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

Process for RA Determination

Section 2.7

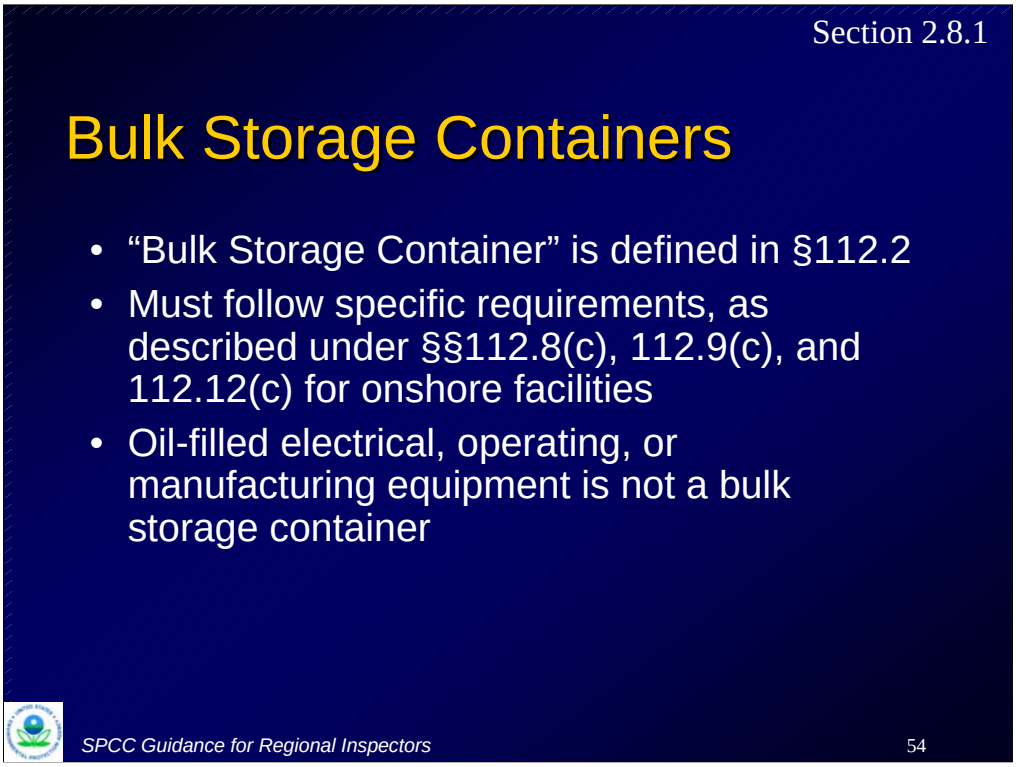
Determination of Applicability	
Within 30 days of receipt of notice to prepare an SPCC Plan	Owner/operator must provide information and data and may consult with EPA about the need to prepare an SPCC Plan, or applicable part (§112.1(f)(3)).
Within 30 days of receipt of data	Regional Administrator(RA) must make a final determination regarding whether the owner/operator is required to prepare and implement an SPCC Plan, or applicable part (§112.1(f)(3)).
Within 6 months of final determination that facility needs a Plan	Owner/operator must prepare the Plan, or applicable part (§112.1(f)(4)).
Within 1 year of final determination that facility needs a plan	Owner/operator must implement the Plan, or applicable part (§112.1(f)(4)).

The Appeals Process of the RA Applicability Determination

Appeals Process	
Within 30 days of receipt of final determination that facility needs a Plan	Owner/operator may appeal final determination to the Administrator of EPA (and send a copy to the RA) (§112.1(f)(5)).
Within 60 days of receiving the appeal or additional information submitted by owner/operator	The Administrator must render a decision on the appeal (§112.1(f)(5)).

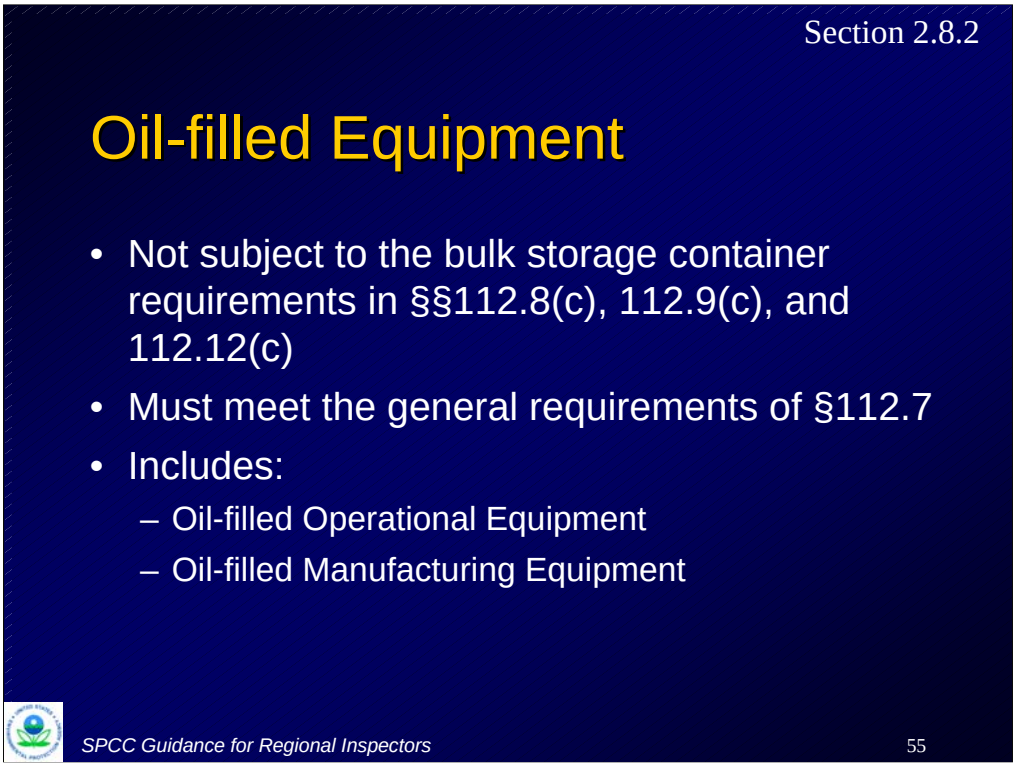
SPCC Applicability for Different Types of Containers

- Bulk Storage Containers
- Oil-filled Equipment
  - Oil-filled Operational Equipment
  - Oil-filled Manufacturing Equipment



Relevant guidance document text:

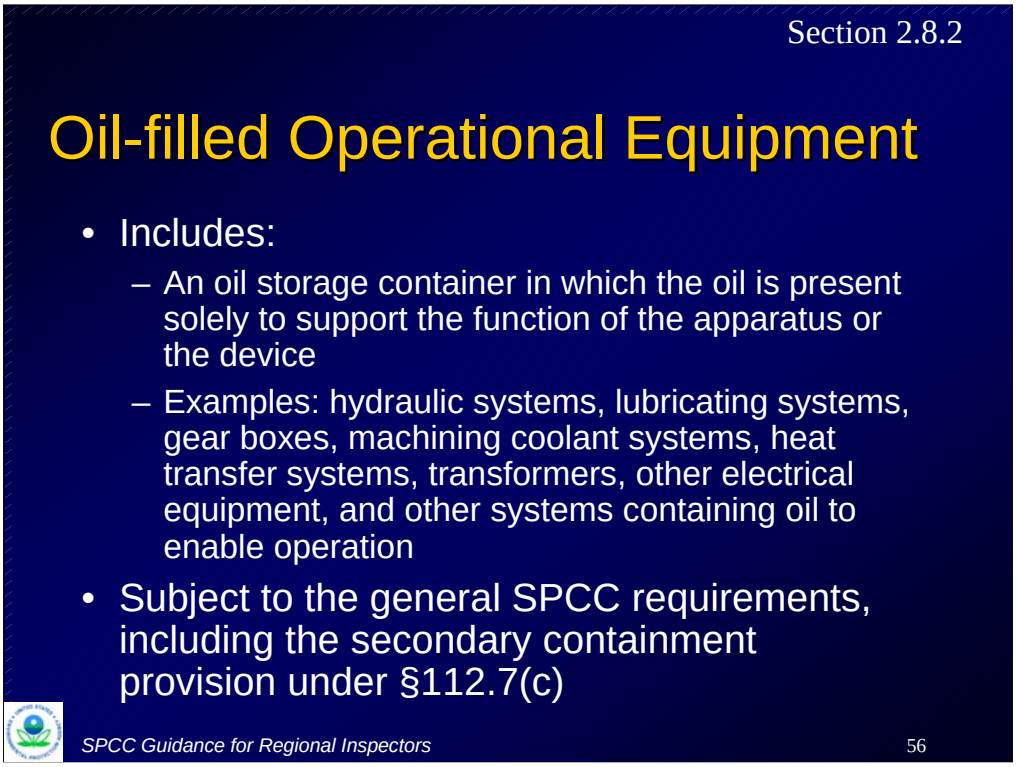
A bulk storage container, as defined in §112.2, must follow specific requirements, as described under §§112.8(c), 112.9(c), and 112.12(c) for onshore facilities. Examples of these requirements include, but are not limited to, secondary containment and fail-safe engineering, such as high level alarms, inspections, and testing.



Relevant guidance document text:

The definition of bulk storage container in §112.2 specifically excludes oil-filled electrical, operating, and manufacturing equipment ("oil-filled equipment"). Therefore, oil-filled equipment is not subject to the bulk storage container requirements in §§112.8(c), 112.9(c), and 112.12(c). However, oil-filled equipment must meet the general requirements of §112.7. See generally 67 FR 47054-47055.

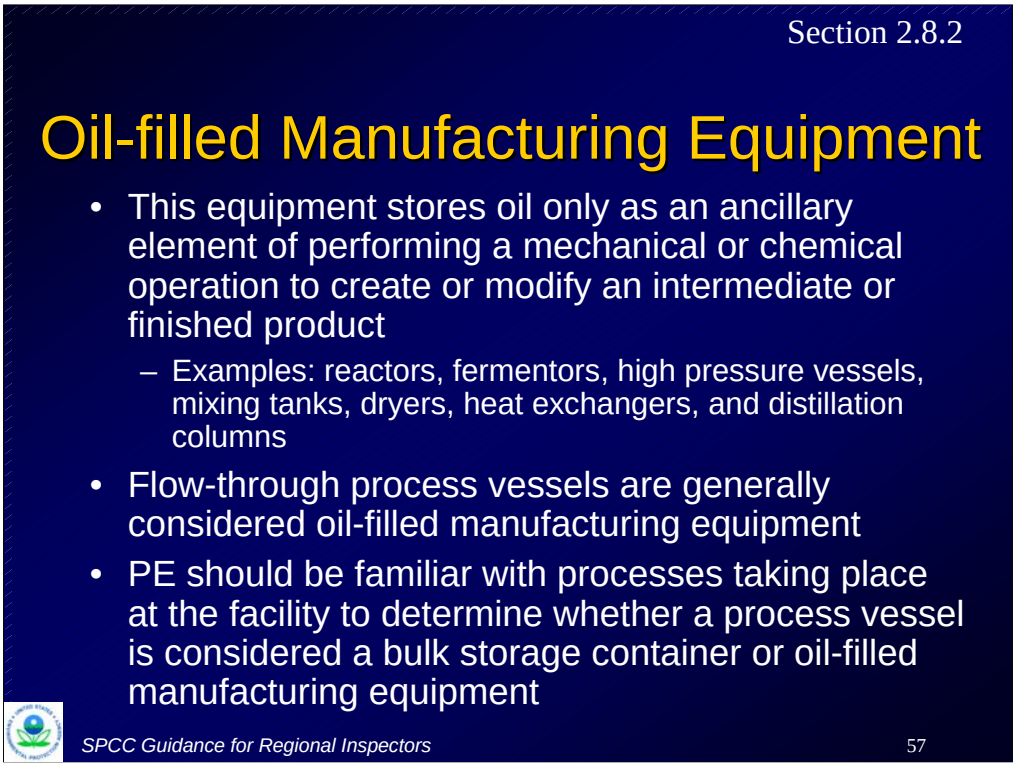
EPA believes it is good engineering practice to have some form of visual inspection or monitoring for this oil-filled equipment to prevent discharges as described in §112.1(b). For example, it is a challenge to comply with security requirements under §112.7(g) and countermeasures for discharge discovery under §112.7(a)(3)(iv)) without some form of inspection or monitoring program. Additionally, inspection and/or monitoring should be part of an effective contingency plan when a PE determines that secondary containment for this equipment is impracticable.



Relevant guidance document text:

Oil-filled operational equipment includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Oil-filled operational equipment does not include manufacturing equipment.

Examples of oil-filled operational equipment include hydraulic systems, lubricating systems (including lubricating systems for pumps, compressors, and other rotating equipment), gear boxes, machining coolant systems, heat transfer systems, transformers, other electrical equipment, and other systems containing oil to enable operation.



Supplemental Information:

Oil-filled manufacturing equipment is distinct from bulk storage containers in its purpose. Oil-filled manufacturing equipment stores oil only as an ancillary element of performing a mechanical or chemical operation to create or modify an intermediate or finished product. Examples of oil-filled manufacturing equipment may include reaction vessels, fermentors, high pressure vessels, mixing tanks, dryers, heat exchangers, and distillation columns. Under the SPCC rule, flow-through process vessels are generally considered oil-filled manufacturing equipment since they are not intended to store oil. Additionally, there may be oil-filled operational equipment (e.g., a hydraulic unit) at this type of facility to support the manufacturing equipment (see generally 67 FR 47080). The PE reviewing and certifying the SPCC Plan should be familiar with processes taking place at the facility and should therefore determine whether a given process vessel is considered a bulk storage container or oil-filled manufacturing equipment.

In cases where a container is used for the static storage of oil within a manufacturing or processing area, the PE may determine that the container is in fact a bulk storage container. Examples of oil storage within manufacturing areas include:

- Storing an intermediate product for an extended period of time in a continuous or batch process;
- Storing a raw product prior to use in a continuous or batch process; and
- Storing a final product after a continuous or batch process.

Storage tanks and containers located at the beginning or end of a process and used to store feedstock or finished products generally are considered bulk storage containers. In cases where oil storage is incidental to the manufacturing activity or process (e.g., where it is being transformed in a flow-through process vessel) the PE may determine that the container is part of the manufacturing equipment.

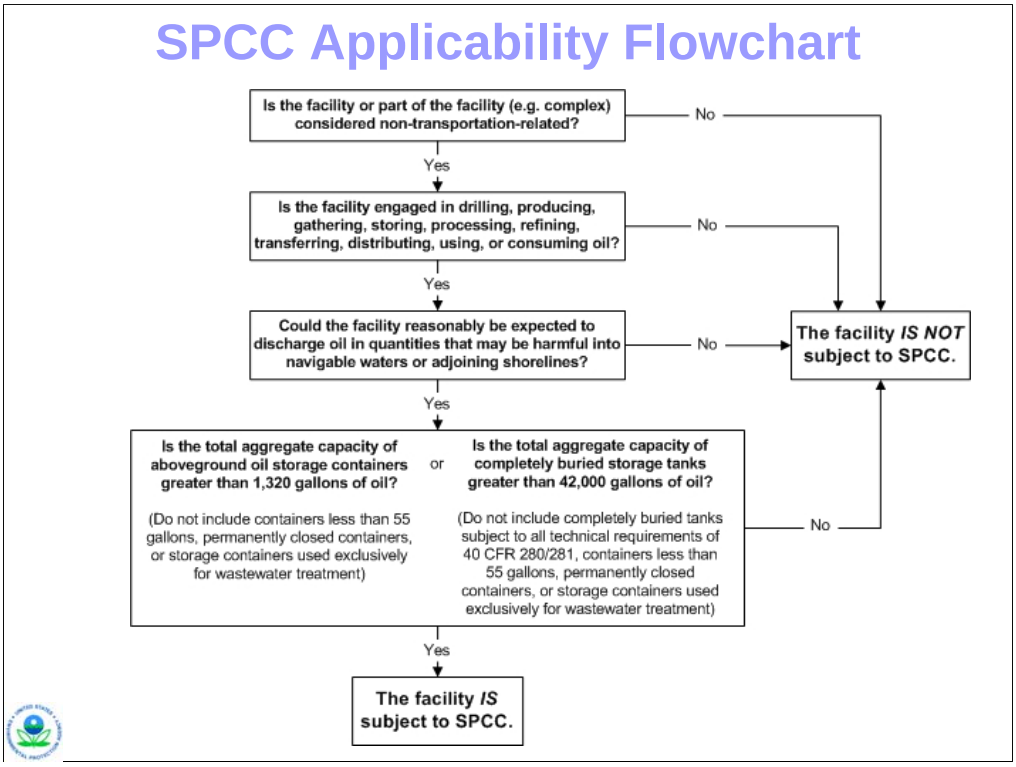
The U.S. Occupational Safety and Health Administration's Process Safety Management (PSM) regulation (29 CFR 1910.119) considers a single process "any group of vessels which are interconnected and separate vessels which are located such that a highly hazardous chemical could be involved in a potential release." The PSM definition of process includes storage tanks, while the SPCC rule considers storage tanks as bulk storage containers and not manufacturing equipment.

Determination of Applicability of Facility Response Plans

- If a facility has the potential to cause substantial harm to environment in the event of a discharge, the facility must prepare and submit an FRP (§112.20)
- SPCC facilities must document whether they meet the FRP applicability criteria by completing "Certification of the Applicability of the Substantial Harm Criteria"

Role of the EPA Inspector

- Responsible for gathering information and data to determine compliance with SPCC requirements
- Checks that the measures described in the SPCC Plan are implemented at the facility and fully document all observations and other pertinent information
- The inspector can use the following flowchart for a quick reference to determine whether a facility is subject to the SPCC rule



Supplemental Information

The intent of this flowchart is to show the general principles of applicability and inspectors should always consult the CFR and applicable MOUs.

Definitions:

***Completely buried tanks*:** Any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part (40 CFR 112.2).

***Complex*:** A facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA.

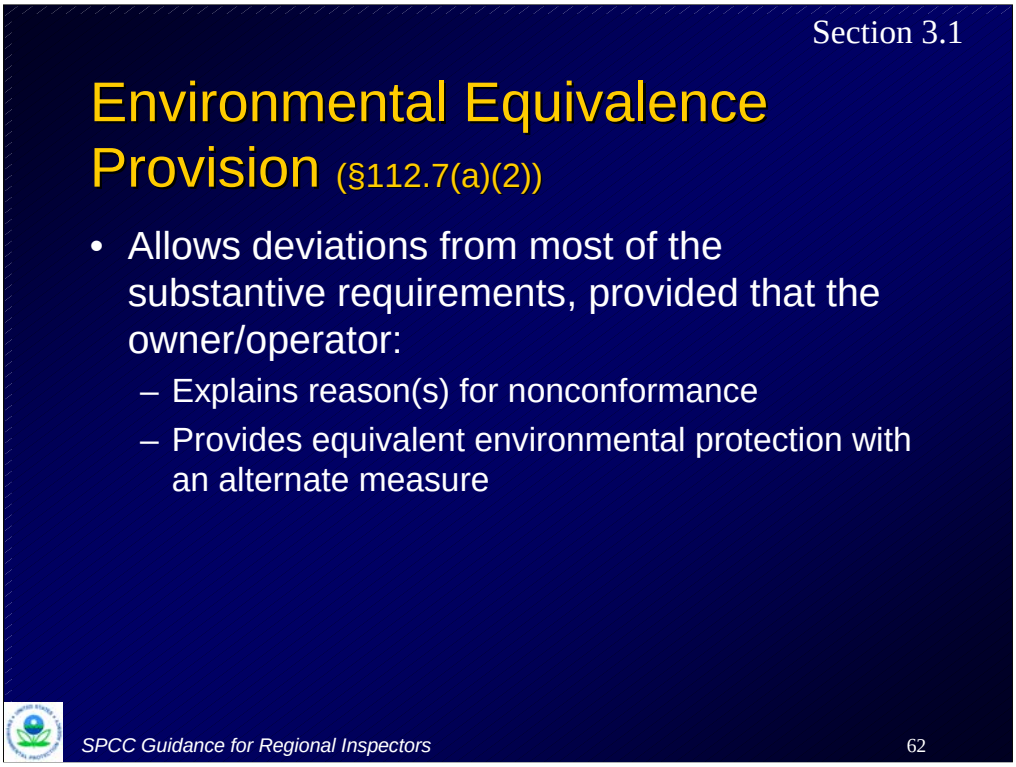
***Facility*:** Any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and waste treatment, or in which oil is used, as described in Apendix A to the SPCC rule. The boundaries of a facility depend on several site-specific factors, including, but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and the types of activity at the site (40 CFR 112.2).

Permanently closed: Any container or facility for which: 1) All liquid and sludge has been removed from each container and connecting line; and (2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure (40 CFR 112.2).

***Storage Capacity*:** Shell capacity of the container (40CFR 112.2).

Chapter 3
Environmental Equivalence

- Overview of environmental equivalence
- Substantive requirements eligible for the environmental equivalence provision
- Examples of issues that may be addressed through environmental equivalence flexibility
- Documentation and role of the inspector

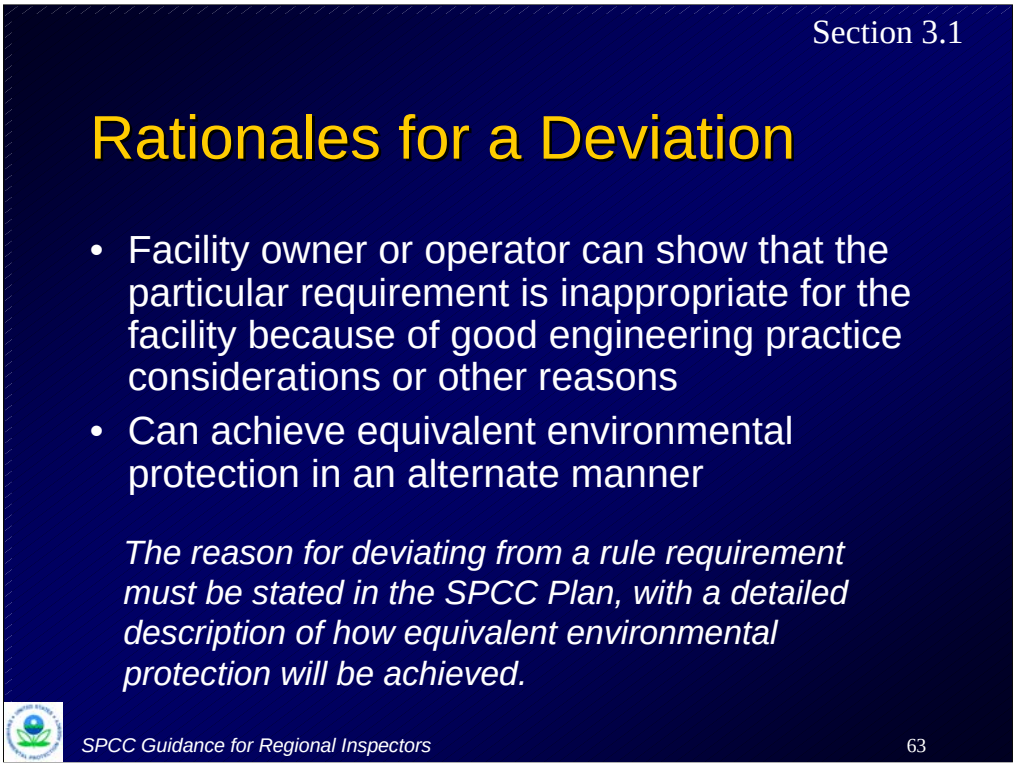


Relevant guidance document text:

The environmental equivalence provision, contained in §112.7(a)(2), allows for deviations from specific requirements of the SPCC rule, as long as the alternative measures provide equivalent environmental protection. The environmental equivalence provision is a key mechanism of the performance-based SPCC rule. This flexibility enables facilities to achieve environmental protection in a manner that fits their unique circumstances. It also allows facilities to adopt more protective industry practices and technologies as they become available. The preamble to the 2002 SPCC regulation refers to certain industry standards that may be useful and can be considered in implementing the required spill prevention measures.

The facility owner or operator is responsible for the selection, documentation in the SPCC Plan, and implementation in the field of SPCC measures, including any environmentally equivalent measures. However, a Professional Engineer (PE), when certifying a Plan as per §112.3(d), must verify that these alternative methods are in accordance with good engineering practice, including consideration of industry standards, and provide environmental protection equivalent to the measures described in the SPCC rule.

In the SPCC context, equivalent environmental protection means an equal level of protection of navigable waters and adjoining shorelines from oil pollution. This can be achieved in various ways, but a facility may not rely solely on measures that are required by other sections of the rule (e.g., implementing secondary containment) to provide environmentally equivalent protection. While environmental equivalence need not be a mathematical equivalence, it must achieve the same desired outcome, though not necessarily through the same mode of operation (see 67 FR 47095).

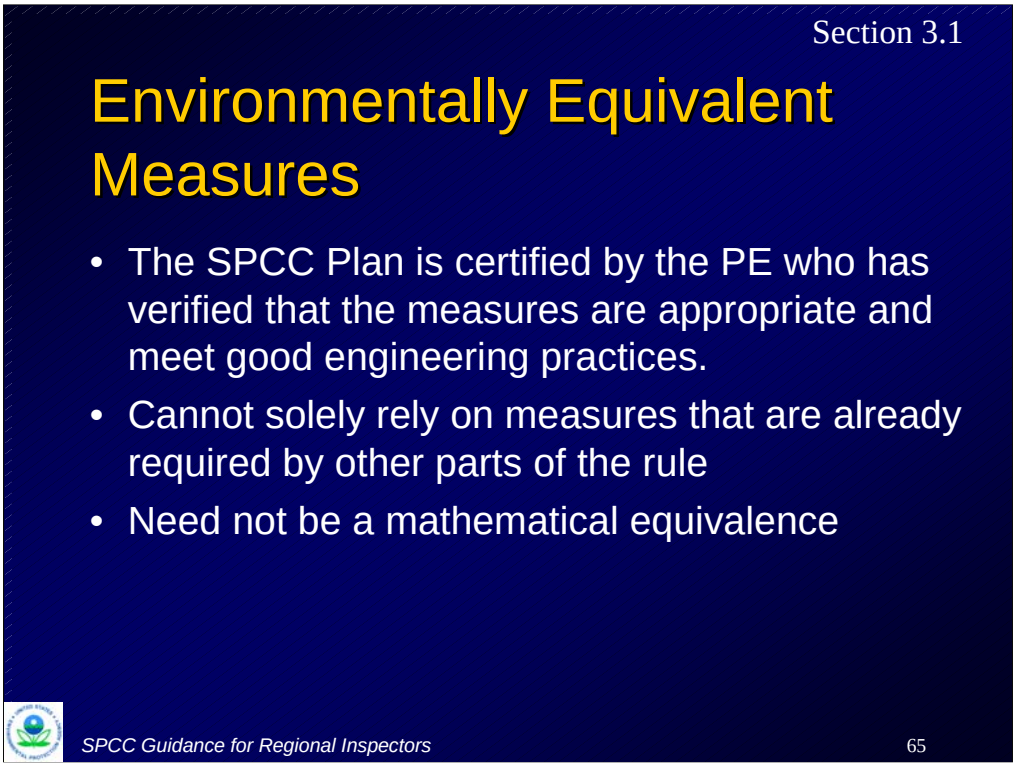


Relevant guidance document text:

The reason for deviating from a requirement of the SPCC rule, as well as a detailed description of how equivalent environmental protection will be achieved, must be stated in the SPCC Plan, as required in §112.7(a)(2). Possible rationales for a deviation include the owner or operator's ability to show that the particular requirement is inappropriate for the facility because of good engineering practice considerations or other reasons, and that he/she can achieve equivalent environmental protection in an alternate manner. Thus, a requirement that may be essential for a facility storing gasoline may be less appropriate for a facility storing hot asphalt cement due to differences in the properties and behavior of the two products, and the facility owner or operator may be able to implement equivalent environmental protection through an alternate technology (67 FR 47094, 47095).

Selection of Environmentally Equivalent Measures

- Can be based on various considerations, such as:
  - Safety
  - Cost
  - Geographical constraints
  - Appropriateness of a particular requirement based on site-specific considerations
  - Other factors consistent with engineering principles



Relevant guidance document text:

Alternative measures cannot rely solely on measures that are already required by other parts of the rule because this would allow for approaches that provide a lesser degree of protection overall. For instance, as EPA noted in a May 2004 letter to the Petroleum Marketers Association of America (PMAA), the presence of sized secondary containment for bulk storage containers, which is required under §112.8(c) and other relevant parts of the SPCC rule, does not provide, by itself, an environmentally equivalent alternative to performing integrity testing of bulk storage containers. Although secondary containment reduces the risk of a discharge from primary containment (the container or tank) to navigable waters and adjoining shorelines and can increase the effectiveness of another prevention or control measure, it does not serve the purpose of integrity testing, which is to identify potential leaks or failure of primary containment before a discharge occurs.

EPA has indicated, however, that for certain shop-built containers – drums and small bulk storage containers, for example – for which internal corrosion poses minimal risk of failure, which are inspected at least monthly, and for which all sides are visible, visual inspection alone may suffice to meet the integrity testing requirements under §112.8(c)(6) or §112.12(c)(6) (67 FR 47120). These are only examples; alternative measures that provide equivalent environmental protection may also be appropriate for other site-specific circumstances. See Chapter 7, Inspection, Evaluation, and Testing, for a discussion of “environmentally equivalent” integrity testing.

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SPCC Requirements Subject to E.E. Provision

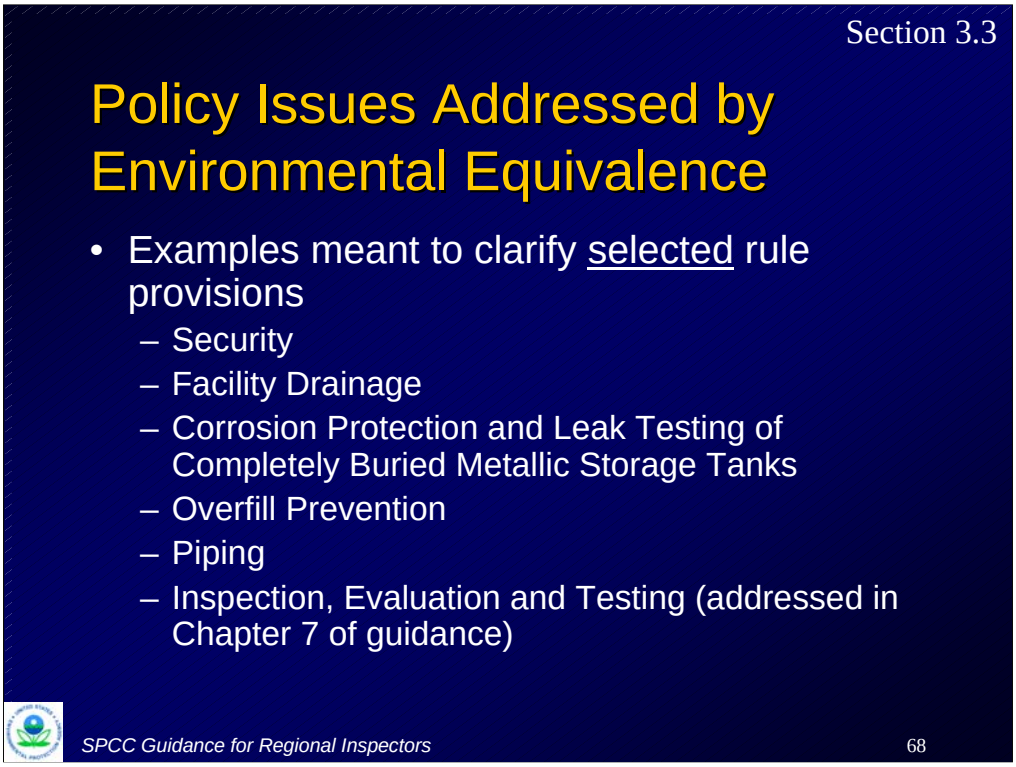
- Most technical elements of the rule (§§112.7 through 112.12)
- Not secondary containment requirements
- Not certain provisions of §112.7, including the general recordkeeping and training provisions
- Not the administrative provisions of the rule §§112.1 – 112.5 (including definitions)

Table 3-1 presents a list of the SPCC requirements eligible for consideration for environmental equivalence.

Facility Type / Provision	Section(s)	
	Petroleum Oils and Non-Petroleum Oils	Animal Fats and Vegetable Oils
All regulated facilities		
Security	**112.7(g)**	
Loading and unloading racks	**112.7(h)(2) and 112.7(h)(3)**	
Brittle fracture evaluation	**112.7(i)**	
Onshore facilities		
Facility drainage/undiked areas	**112.8(b), 112.9(b), 112.10(b) and 112.11(b)**	**112.12(b)**
Type of bulk storage container	**112.8(c)(1) and 112.9(c)(1)**	**112.12(c)(1)**
Drainage of diked areas	**112.8(c)(3)**	**112.12(c)(3)**
Corrosion protection of buried storage tanks	**112.8(c)(4) and 112.8(c)(5)**	**112.12(c)(4) and 112.12(c)(5)**
Integrity testing and/or container inspection	**112.8(c)(6) and 112.9(c)(3)**	**112.12(c)(6)**
Monitoring internal heating coils	**112.8(c)(7)**	**112.12(c)(7)**
Engineering of bulk container installation (overfill prevention)	**112.8(c)(8) and 112.9(c)(4)**	**112.12(c)(8)**
Monitoring treatment/disposal facilities	**112.8(c)(9) and 112.9(d)(2)**	**112.12(c)(9)**
Removal of oil in diked areas and production facility drainage	**112.8(c)(10)**	**112.12(c)(10)**
Piping	**112.8(d), 112.9(d)(1), and 112.9(d)(3)**	**112.12(d)**
Oil drilling and workover facilities		
Facility drainage/undiked areas (rig position)	**112.10(b)**	**N/A**
Blowout prevention and well control system	**112.10(b)**	**N/A**
Offshore facilities		
Offshore oil drilling and workover facilities	**112.11(b) through 112.11(p)**	**N/A**

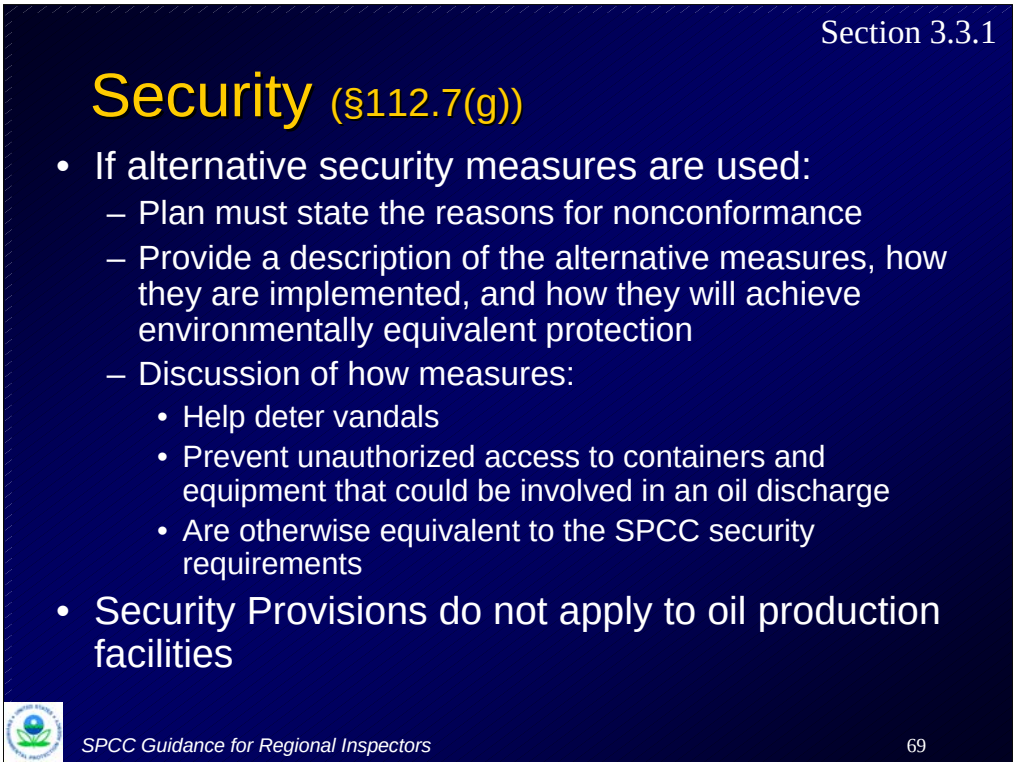
Supplemental Information

The table above is Table 3-1 found in the guidance document on page 3-4.



Relevant guidance document text:

This section provides additional guidance on environmentally equivalent measures for specific requirements on which the regulated community has raised questions. The examples discussed are meant to clarify *selected* rule provisions and to illustrate how deviations based on environmentally equivalent alternatives may be implemented. Other circumstances not discussed here may also be addressed through the use of environmentally equivalent measures.



Relevant guidance document text:

A facility owner or operator may achieve the security objective through alternative measures, as appropriate for the facility, if these measures provide environmental protection equivalent to the measures described in the SPCC rule.

Section 3.3.1

Fencing Areas (§112.7(g)(1))

Case 1

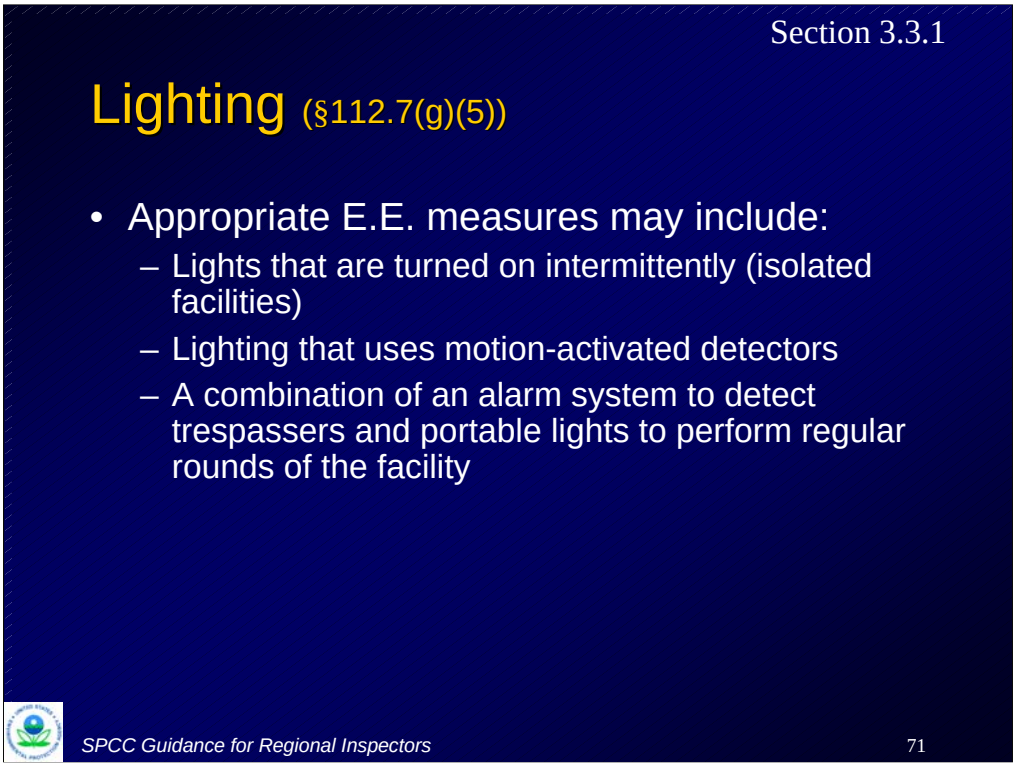
Fencing only areas directly involved in oil handling, processing, and storage can demonstrate E.E.

Case 2

Equipping an enclosed pump house with a master disconnect switch does not, by itself demonstrate E.E. because it would not restrict access to equipment that can be operated without electrical power.

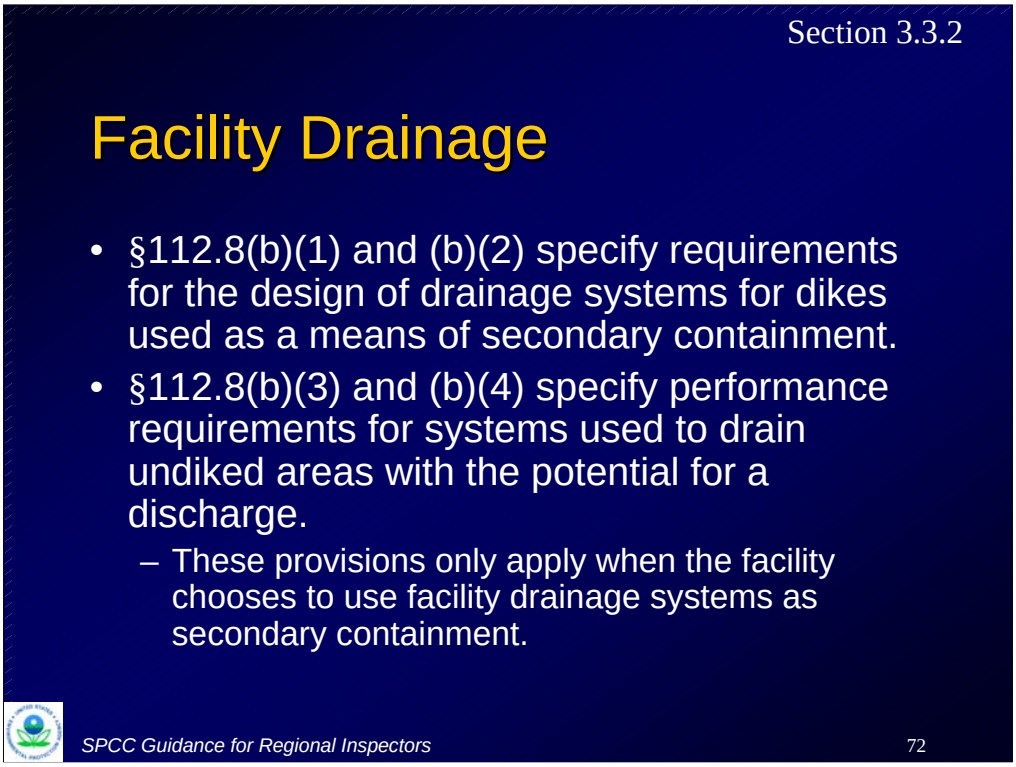
Relevant guidance document text:

Section 112.7(g)(1) requires that owners or operators *fully* fence the facility and/or guard gates when the facility is not in production or attended. Two examples of scenarios discussed in a letter to PMAA2 regarding environmentally equivalent alternatives to fencing the entire footprint is available on EPA's Web site at: http://www.epa.gov/oilspill/pdfs/PMAA_letter.pdf or in Appendix H of this guidance.

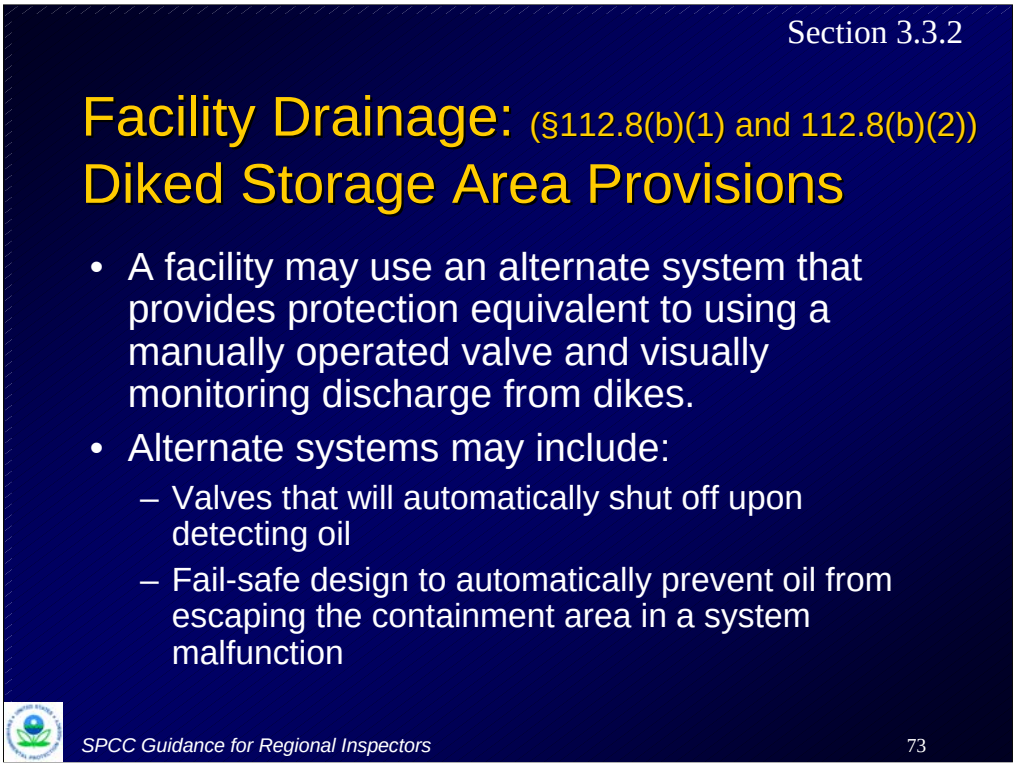


Relevant guidance document text:

Section 112.7(g)(5) states that facilities must provide lighting to assist in the discovery of discharges occurring during hours of darkness and help prevent discharges caused by acts of vandalism. Note that the rule requires lighting that is "commensurate with the type and location of the facility." Thus, for unattended facilities that are located away from inhabited areas (for example, farm fields or certain isolated facilities) appropriate lighting may consist of lights that are turned on intermittently. For example, lighting that uses motion-activated detectors may be an appropriate means of meeting the lighting requirements, while avoiding undue attention to the presence of oil containers. Alternatively, an environmentally equivalent approach may combine an alarm system that detects the presence of trespassers, with portable lights used to perform regular rounds of the facility. Whatever approach the owner or operator implements, the SPCC Plan should discuss how lighting provided at the facility is adequate for the type and location of the facility, or how the facility is achieving environmentally equivalent protection through other means.



Relevant guidance document text:
Section 112.8(b) describes facility drainage provisions for onshore facilities that handle petroleum oils and non-petroleum oils other than animal fats and/or vegetable oils. Section 112.12(b) provides the corresponding requirements for facilities that handle animal fats and/or vegetable oils. The description of the design capacity of facility drainage systems is also addressed under §§112.7(a)(3) and 112.7(b).



Relevant guidance document text:

Under §112.8(b)(1) and 112.8(b)(2), the SPCC regulation requires that when the facility owner/operator uses valves to drain a dike or berm, the valves must be of manual, open-and-closed design, unless the facility drainage system is equipped to control oil discharges. The facility owner or operator, and the PE certifying a Plan, may consider alternative technologies specifically engineered to prevent oil from escaping the facility containment and drainage control system, while normally allowing drainage of uncontaminated water. When implemented and maintained properly, such systems may provide environmental protection equivalent to using a manually operated valve and visually monitoring discharge from dikes. Certain valves will automatically shut off upon detecting oil. These types of systems have been installed at electrical substations, for example, to drain uncontaminated rainwater under normal conditions, while also preventing oil from escaping the containment system in the event of a discharge from transformers or other oil-filled electrical equipment. The material expands upon contact with oil, effectively plugging the drainage system. The valve is not actuated, but rather the drainage system becomes plugged upon contact with the oil, thus providing an equivalent measure of environmental protection.

Relevant guidance document text:

Sections 112.8(b)(3) and 112.8(b)(4) specify performance requirements for systems used to drain undiked areas with the potential for a discharge. These two provisions apply only when the facility chooses to use a facility drainage system to meet general secondary containment requirements under §112.7(c) or a more specific requirement under §112.8(c), §112.9(c), §112.10(c) or §112.12(c). Where the facility drainage cannot be engineered as described in §112.8(b)(3), the SPCC rule requires that the facility equip the final discharge points of all ditches within the facility with a diversion system that would, in the event of a discharge, retain the oil at the facility as described in §112.8(b)(4). Additional requirements in §112.8(b)(5) pertain more specifically to engineering multiple treatment units for these drainage systems.

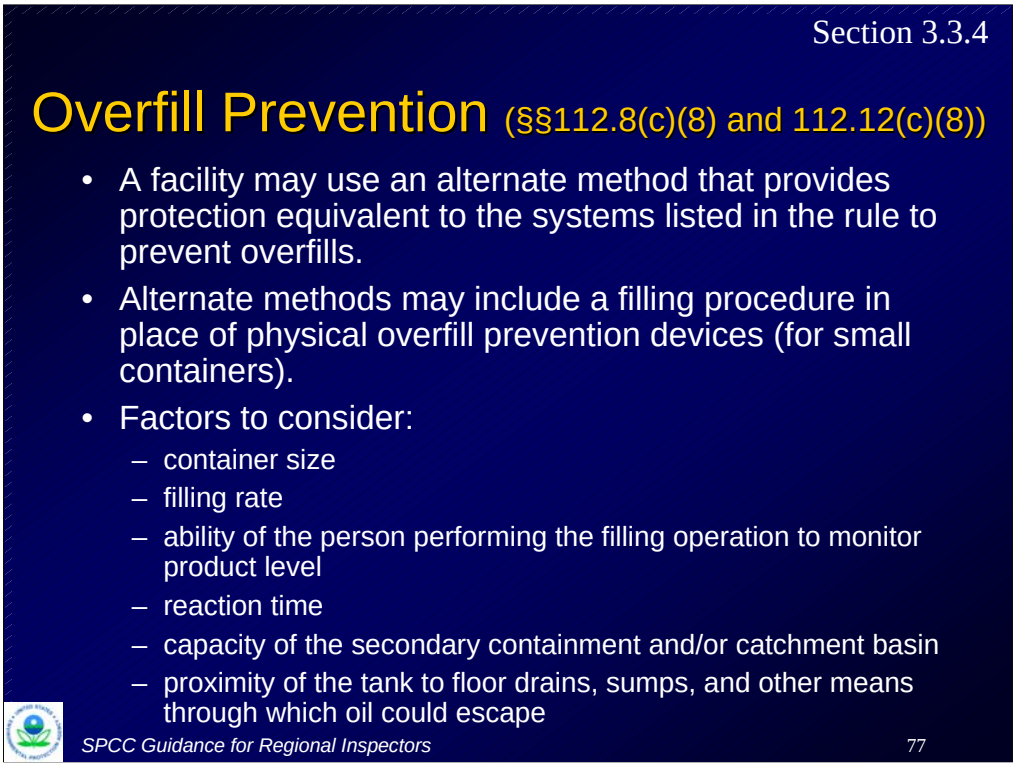
Relevant guidance document text:

Similar deviations from SPCC drainage control requirements are possible for other types of facilities. Section 112.9(b), for example, outlines drainage requirements for production facilities. They include sealing dike drains or drains of equivalent measures required under §112.7(c)(1) for tank batteries and separation and treating areas at all times except when draining uncontaminated rainwater. The PE may specify alternative measures, such as the technologies described above for electrical substations, that would provide equivalent environmental protection by retaining oil within the diked area in the event of a discharge. (See the above discussion in Section 3.3.2, Diked Storage Area Provisions.) Here also, the Plan must describe the measure in detail and how it provides environmentally equivalent protection when implemented in the field, as required by §112.7(a)(2).

Wherever a facility owner or operator chooses to deviate from the drainage control provisions by using an alternative measure that provides equivalent environmental protection, the SPCC Plan must state the reasons for nonconformance and describe the alternative measure in detail, including how it achieves equivalent environmental protection when implemented (§112.7(a)(2)).

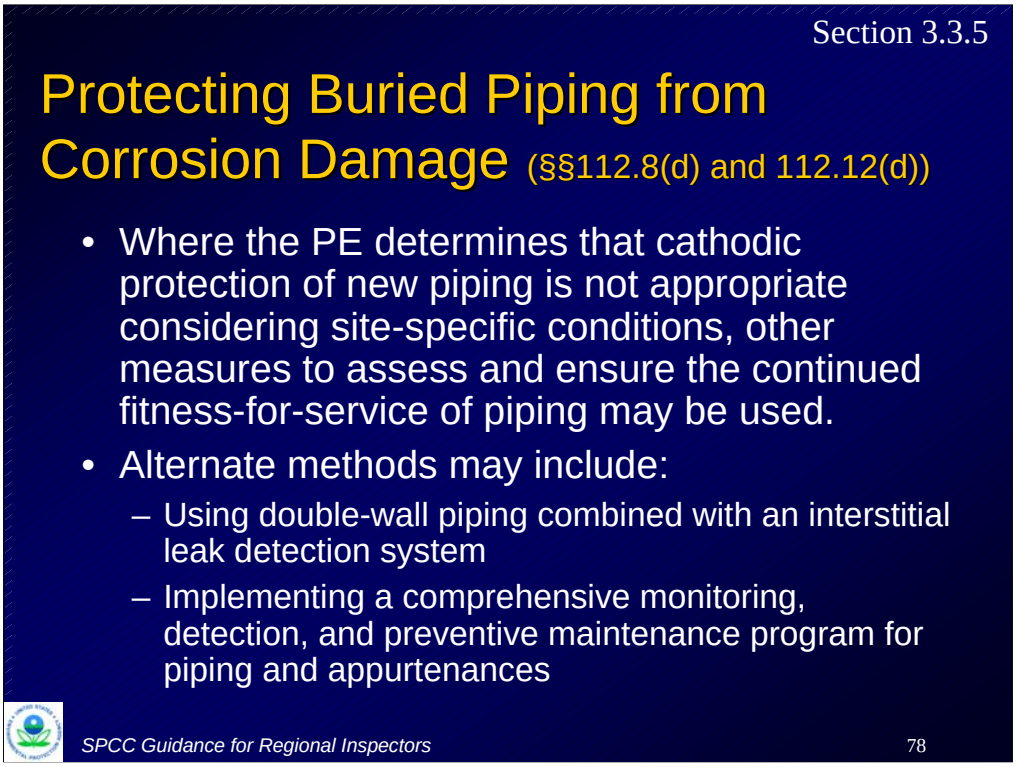
Relevant guidance document text:

Subparagraph (c)(4) requires that facility owners or operators protect buried metallic storage tanks from corrosion and regularly perform leak test on the tanks. Completely buried storage tanks are exempted from SPCC requirements, as provided in §112.1(d)(2)(i), when the tanks are subject to all of the technical requirements of 40 CFR part 280 or a state program approved under 40 CFR part 281. Tanks subject to 40 CFR part 280 or a state program approved under 40 CFR part 281 must follow those requirements. Completely buried tanks that are subject to SPCC requirements must meet the provisions outlined in §112.8(c)(4) or §112.12(c)(4).



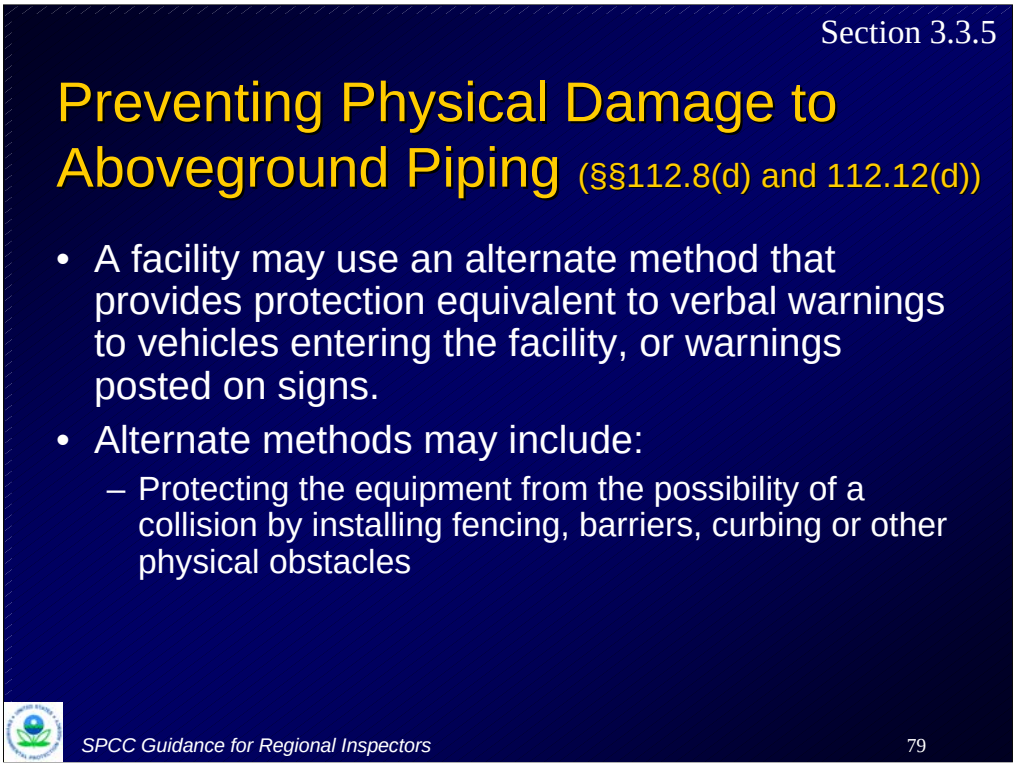
Relevant guidance document text:

In cases where a facility owner or operator uses an overfill prevention approach other than the systems described in the SPCC rule, the Plan must describe the approach and how it provides environmentally equivalent protection (§112.7(a)(2)). Where the alternative approach relies on procedures instead of, or in addition to, a physical device, the Plan should clearly describe the procedures and facility personnel involved in filling operations should be able to demonstrate an understanding of the procedures and proper field implementation. As part of the description of the environmentally equivalent measure required under §112.7(a)(2), the PE may reference other facility documents in the SPCC Plan which discuss relevant established Best Management Practices (BMPs), pollution prevention training and/or procedures in more detail, rather than restating this information in the SPCC Plan. Additional supporting documentation should be on-site and available for review during an



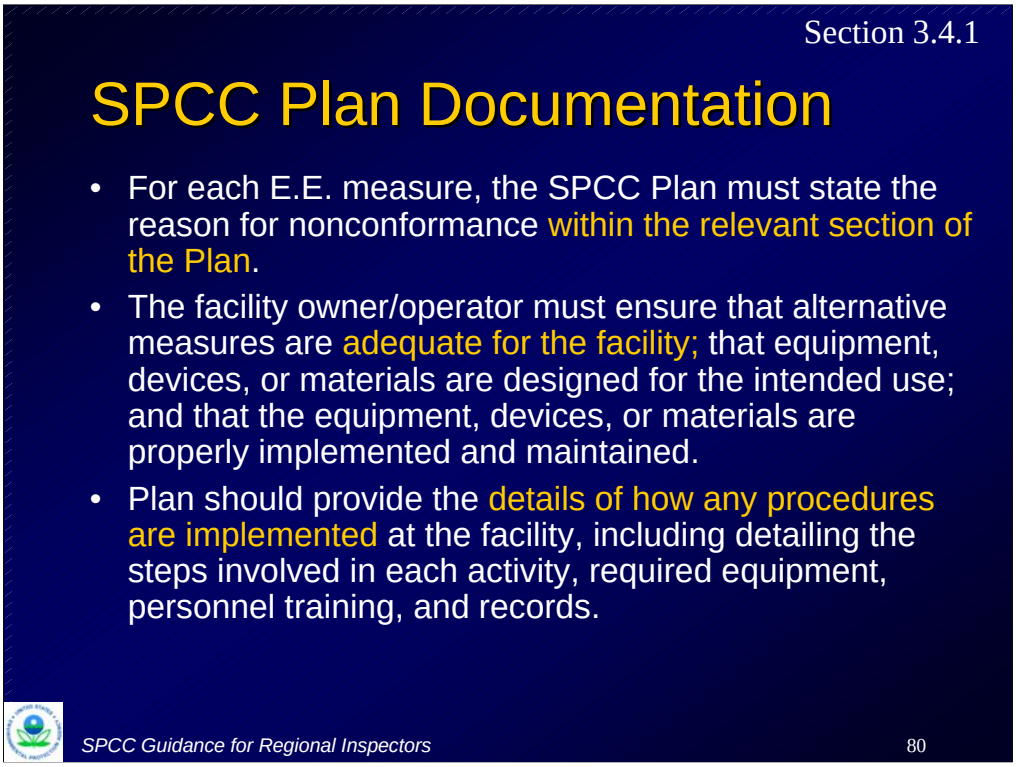
Relevant guidance document text:

For example, the owner or operator of a facility could, instead of cathodically protecting underground piping, use double-wall piping combined with an interstitial leak detection system (67 FR 47123). The SPCC requirement (cathodic protection) averts discharges by preventing container corrosion, while the alternative method (leak detection system and double-wall piping) detects and contains leakage so it may be addressed before it can become a discharge as described in §112.1(b).



Relevant guidance document text:

Warnings to vehicles entering the facility may be given verbally, posted on signs, or other appropriate means. Alternatively, protecting the equipment from the possibility of a collision by installing fencing, barriers, curbing or other physical obstacles may be considered to provide equivalent environmental protection. Whatever method is implemented at the facility, it must be properly documented in the SPCC Plan in accordance with §112.7(a)(2).



Relevant guidance document text:

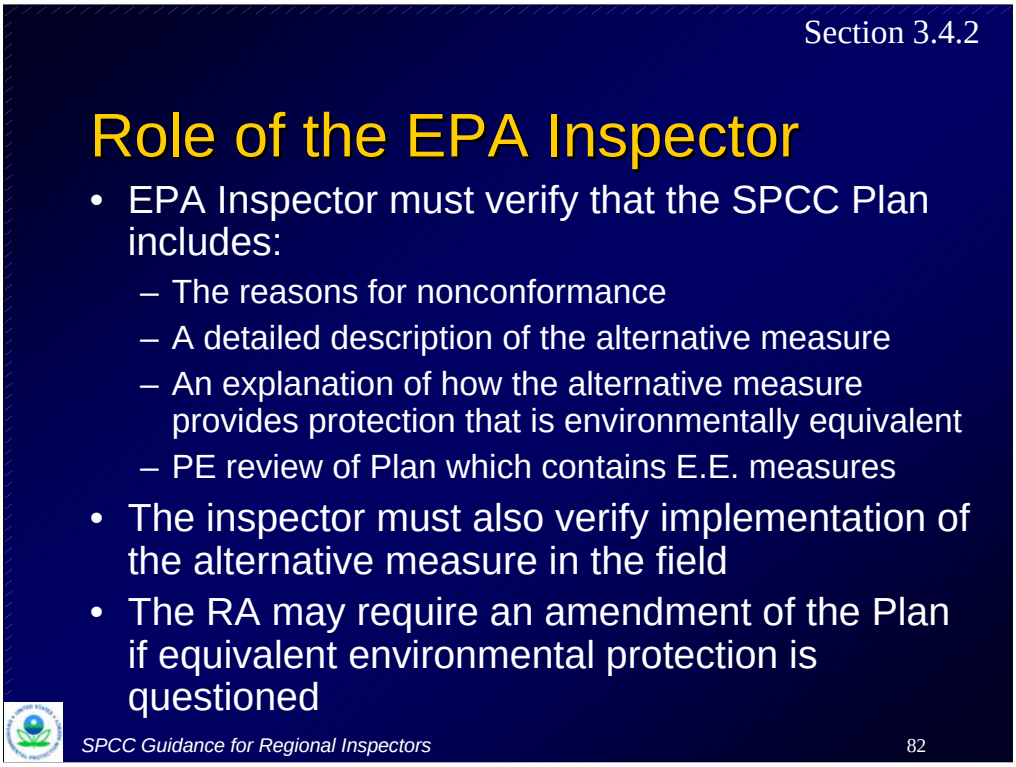
For each environmental equivalent measure, the SPCC Plan must state the reason for nonconformance within the relevant section of the Plan, as required in §112.7(a)(2). The Plan must also describe the alternative measure in detail and explain how the measure provides environmental protection equivalent to that provided by the SPCC provision.

The facility owner or operator must ensure that alternative measures are adequate for the facility; that equipment, devices, or materials are designed for the intended use; and that the equipment, devices, or materials are properly implemented and maintained to provide effective environmental protection (§§112.3(d) and 112.7). EPA emphasizes that the environmental equivalence provision is not intended to be used as a means to avoid complying with the rule or simply as an excuse for not meeting requirements the owner or operator believes are too costly. The alternative measure chosen must represent good engineering practice and must achieve environmental protection equivalent to the SPCC rule requirement as required in §112.7(a)(2). Technical deviations, like other substantive technical portions of the Plan requiring the application of engineering judgement, are subject to PE certification (67 FR 47095).

In cases where operational procedures are used as environmentally equivalent alternatives to SPCC requirements, the Plan must state the reasons for nonconformance and describe in detail the alternate methods and how this will achieve equivalent environmental protection (§112.7(a)(2)). The description should provide the details of how the procedures are implemented at the facility, including detailing the steps involved in each activity, required equipment, personnel training, and records that need to be maintained to document and verify implementation. Records that would be kept as part of usual and customary business practices are generally considered acceptable forms of documentation, but should be referenced in the Plan and available for an inspector's review during an inspection. These records must be maintained with the Plan for a period of three years (§112.7(e)). Certain industry standards, for example API Standards 570 and 653, may specify that records are to be maintained for more than three years.

Example Documentation

- Section 3.1.4 provides examples of sufficient and insufficient documentation.
  - Example #1: Documentation of Environmentally Equivalent Protection for Integrity Testing (§112.8(c)(6)) – Tank Elevated off the Ground
  - Example #2: Documentation of Environmentally Equivalent Protection for Drainage of Diked Areas (§112.8(b)(1) and §112.8(b)(2))
  - Example #3: Insufficient Documentation of Environmentally Equivalent Protection for Integrity Testing (§112.8(c)(6))

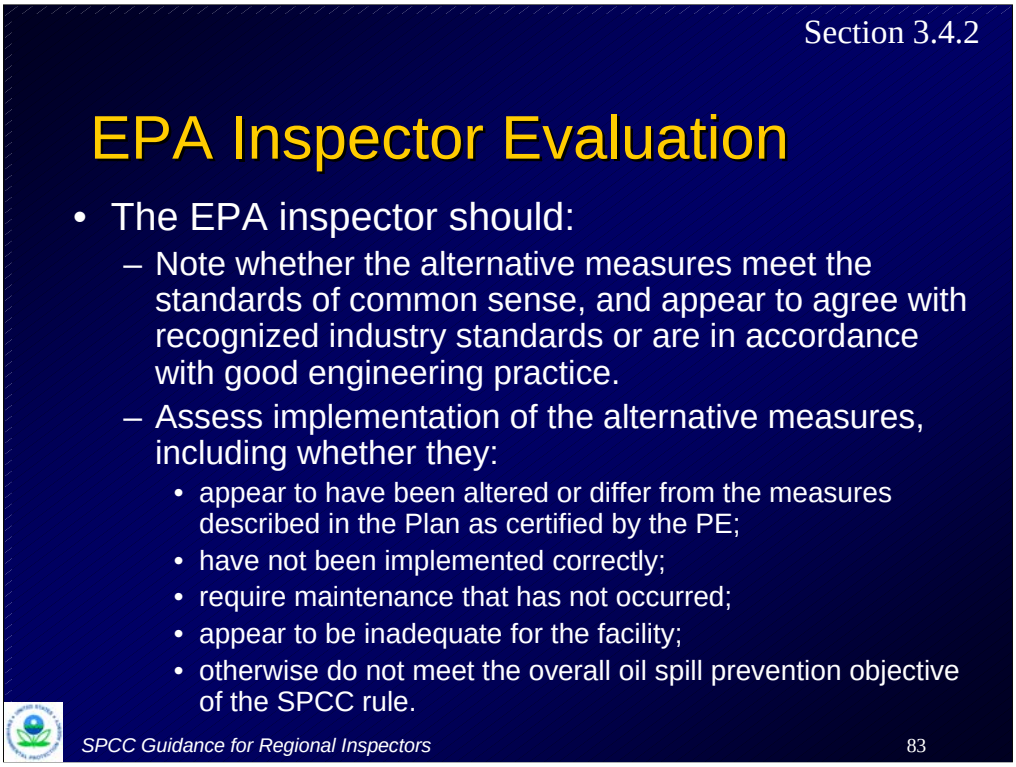


Relevant guidance document text:

Like other technical aspects of the SPCC Plan, the selection and implementation of environmentally equivalent measures must be reviewed by the certifying PE for consistency with good engineering practice (§112.3(d)). For each case where an environmentally equivalent measure is used, the EPA inspector should verify that the Plan includes:

- The reasons for nonconformance;
- A detailed description of the alternative measure; and
- An explanation describing how the alternative measure provides protection that is environmentally equivalent.
- Additionally, the inspector should verify implementation of the alternative measure in the field.

The explanation describing how an alternative measure achieves environmental equivalence does not need to demonstrate “mathematical equivalency,” but the alternative measure does need to provide equivalent protection of the environment against a discharge as described in §112.1(b). The Plan should describe how the alternative measure prevents, controls, or mitigates a discharge, as well as the procedures or equipment used to implement the alternative measure and ensure its continued effectiveness, particularly in terms of the measure’s practical impacts on field operations, employee training, monitoring, and equipment maintenance.



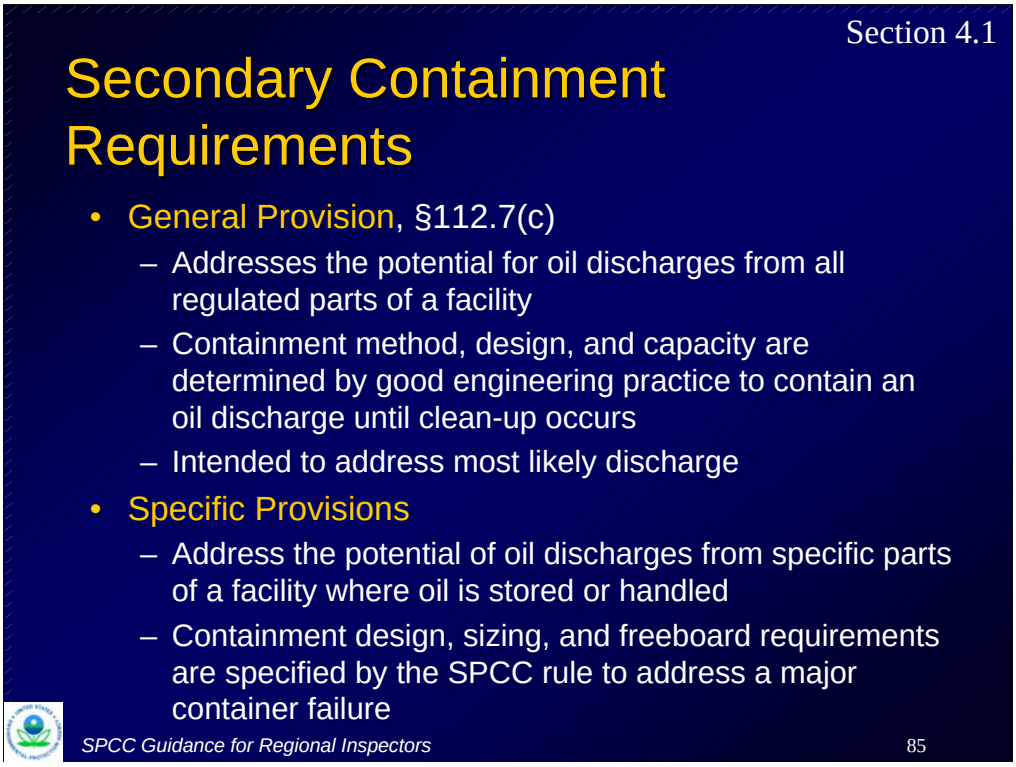
Relevant guidance document text:

The inspector should note whether the alternative measures meet the standards of common sense, and appear to agree with recognized industry standards or, where such standards are not used, are in accordance with good engineering practice. The inspector should assess implementation of the alternative measures, including whether they appear to have been altered or differ from the measures described in the Plan and certified by the PE, have not been implemented correctly, require maintenance that has not occurred, appear to be inadequate for the facility, or otherwise do not meet the overall oil spill prevention objective of the SPCC rule.

If the inspector questions the appropriateness of alternative measures, he/she should fully document all observations and other pertinent information for further review by the regional staff. Follow-up action by the EPA inspector may include requesting additional information from the facility owner or operator on the implementation of the equivalent measure. The EPA Regional Administrator retains the authority to require amendment for deviations, as he/she can for any other part of a Plan. If the Regional Administrator determines that the measures described in the SPCC Plan do not provide equivalent environmental protection, then the procedures for requiring a Plan amendment under §112.4(d) and (e) and/or an enforcement action may be initiated as deemed appropriate.

Chapter 4: Secondary Containment and Impracticability Claims

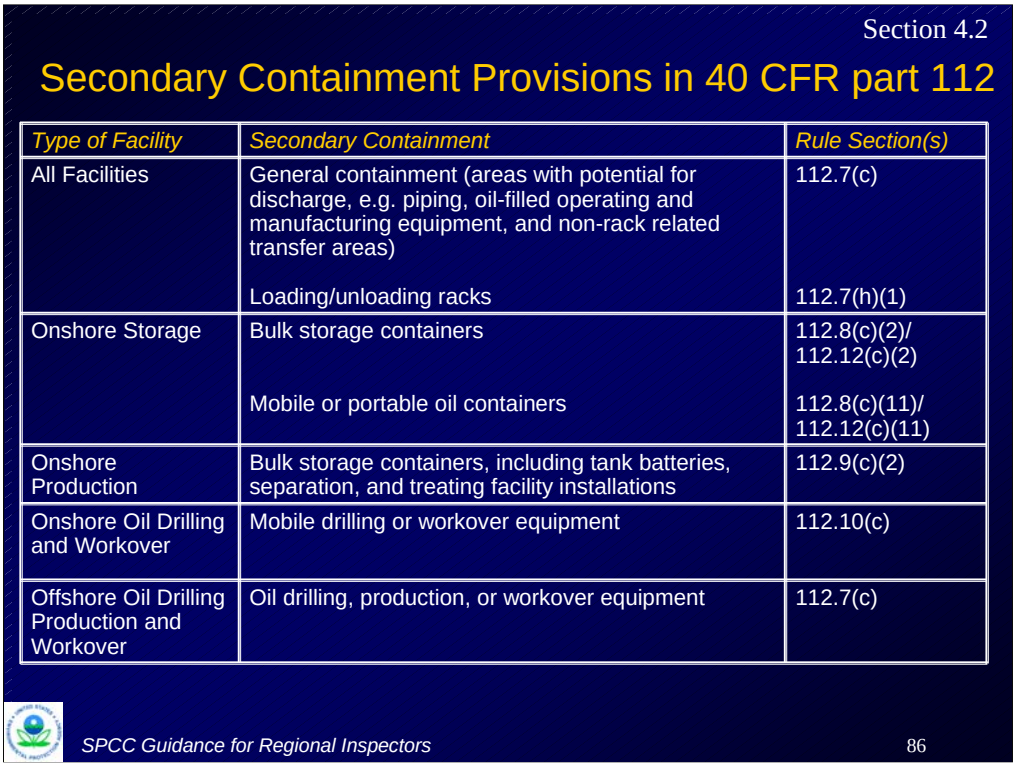
- Secondary Containment Issues
  - General vs. specific provisions
  - Sufficient freeboard
  - Passive vs. active measures
  - "Sufficiently impervious"
  - Facility drainage requirements
- Impracticability Determination Provision



Relevant guidance document text:

The *general* secondary containment requirements are intended to address the most likely oil discharge from bulk storage containers; mobile/portable containers; production tank battery, treatment, and separation installations; a particular piece of oil-filled operational or process equipment; (non-rack) transfer activity; or piping in accordance with good engineering practice.

The *specific* secondary containment requirements are intended to address a major container failure (the entire contents of the container and/or compartment) associated with a bulk storage container; single compartment of a tank car or tank truck at a loading/unloading rack; mobile/portablecontainers; and production tank batteries, treatment, and separation installations. These specific provisions (see Table 4.1 in Section 4.2) explicitly provide requirements for sizing, design, and freeboard that need to be addressed in the SPCC Plan.

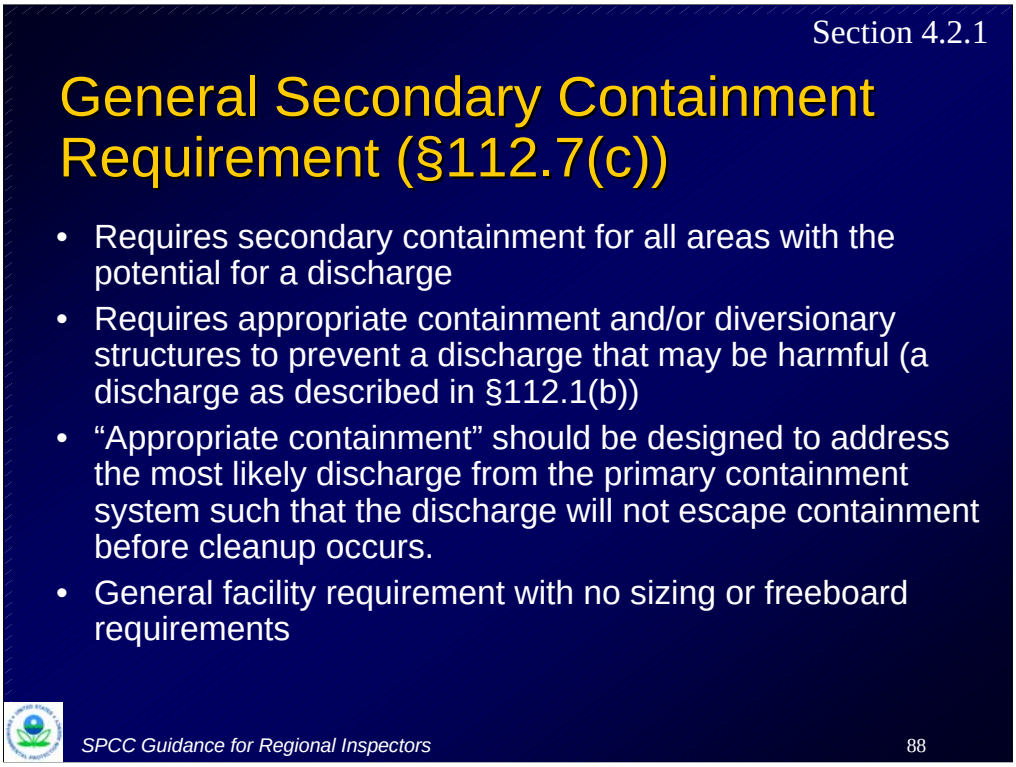


Relevant guidance document text:

The SPCC rule includes several different secondary containment provisions intended to address the various activities or locations at a facility in which oil is handled. This table lists all the secondary containment provisions of the SPCC rule for different types of facilities.

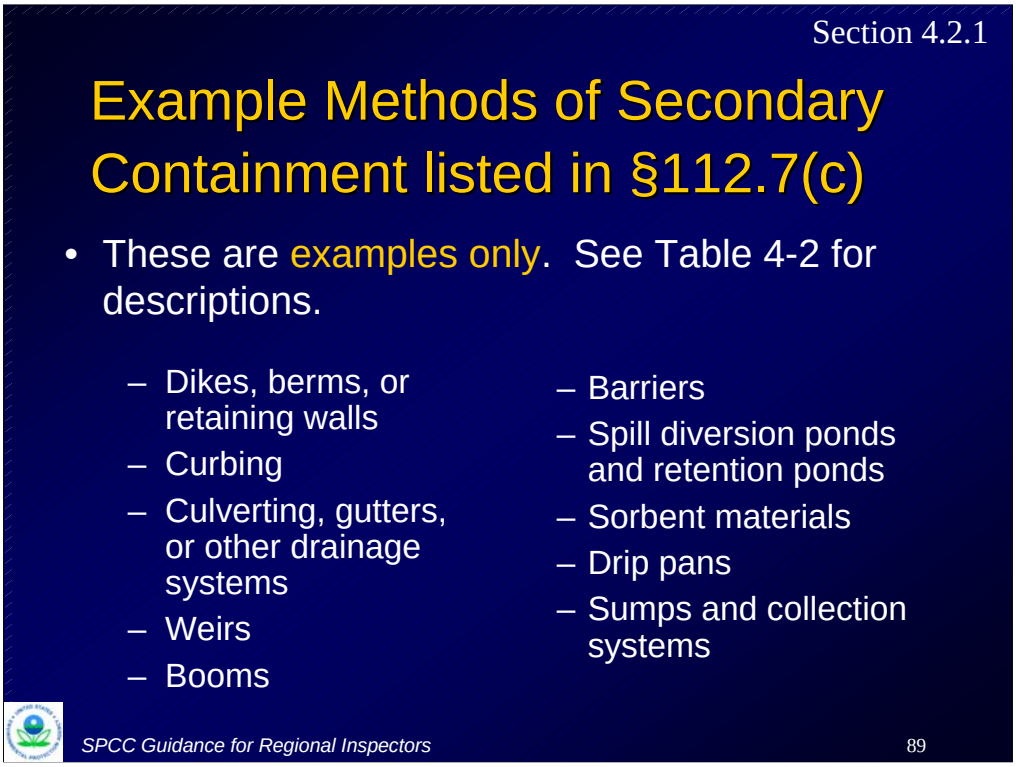
Relationship between Containment Requirements

- Figures 4-1 through 4-4 show the relationships between the secondary containment requirements.
- Types of containers, equipment, and activities or areas where oil is handled are identified, with reference to the appropriate secondary containment rule provision.
- The flowcharts note the use of impracticability determinations and additional design considerations for other areas with the potential for discharge.



Relevant guidance document text:

At a regulated facility, all areas with the potential for a discharge are subject to the general secondary containment provision, §112.7(c). These areas may have bulk storage containers; mobile/portable containers; production tank batteries, treatment, and separation installations; pieces of oil-filled operational or manufacturing equipment; loading/unloading areas (also referred to as transfer areas); piping; and may include other areas of a facility where oil is present. The general secondary containment provision requires that these areas be designed with appropriate containment and/or diversionary that may be harmful (a discharge as described in §112.1(b)). "Appropriate containment" should be designed to address the most likely discharge from the primary containment system such that the discharge will not escape containment before cleanup occurs.



Relevant guidance document text:

Section 112.7(c) lists several methods of providing secondary containment. These methods are examples only; other containment methods may be used, consistent with good engineering practice. For example, a facility could use an oil/water separator, combined with a drainage system, to collect and retain discharges of oil within the facility. Certification of the SPCC Plan verifies that whatever secondary containment methods are selected are appropriate for the facility and that they follow good engineering practice.

Relevant guidance document text:

While all parts of a regulated facility with potential for a discharge are, at a minimum, subject to the general secondary containment requirements of §112.7(c), areas where certain types of containers, activities, or equipment are located may be subject to additional, more stringent containment requirements, including specifications for minimum capacity. The SPCC rule specifies a required minimum size for secondary containment for the following areas:

- Bulk storage containers;
- Loading/unloading racks;
- Mobile or portable bulk storage containers; and
- Production facility bulk storage containers, including tank batteries, separation, and treating vessels/equipment.

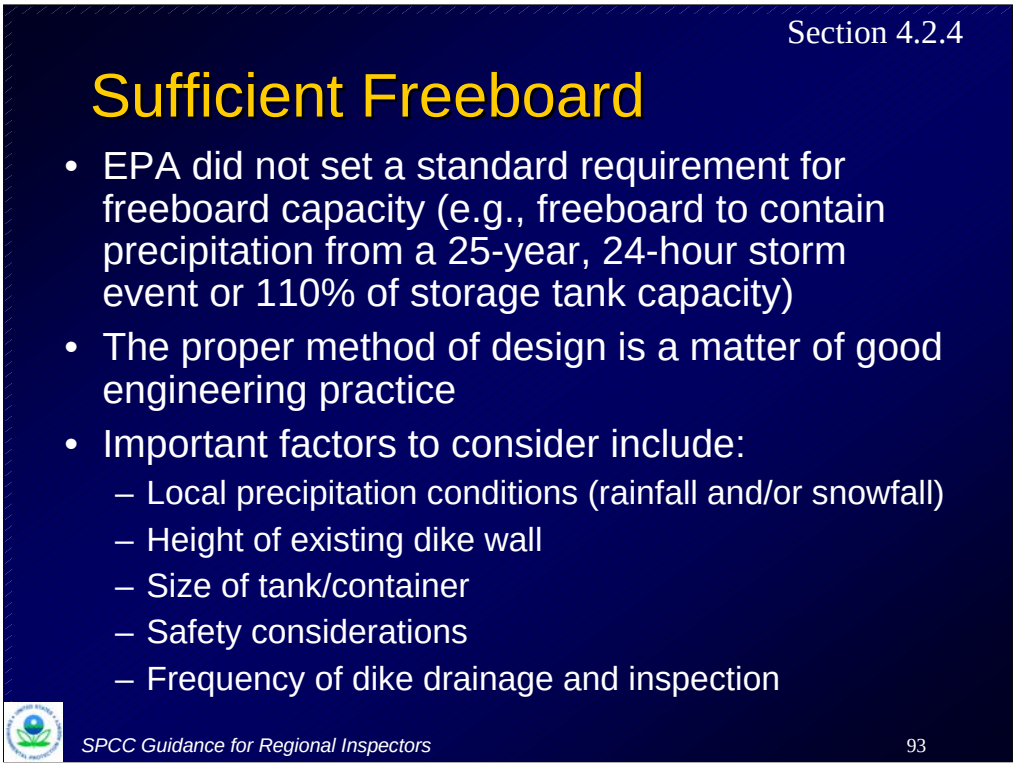
The applicable requirements for each of these types of containers or equipment are discussed in more detail in Section 4.4 of the guidance document. In general, provisions for sized secondary containment require that the chosen containment method be sized to contain the largest single oil compartment or container plus “sufficient freeboard” to contain precipitation. Specific freeboard sizing requirements apply to all of the areas listed above except loading/unloading racks. The “largest single compartment” may consist of containers that are permanently manifolded together. Permanently manifolded tanks are tanks that are designed, installed, or operated in such a manner that the multiple containers function as a single storage unit (67 FR 47122). Accordingly, the total capacity of manifolded containers is the design capacity standard for the sized secondary containment provisions (plus freeboard in certain cases).

Role of EPA Inspector in Evaluating Secondary Containment Methods

- To evaluate whether a dike, berm, or other engineered secondary containment system is adequate, look for:
  - Capacity of the system to contain oil
  - Cracks and discoloration in containment system materials
  - Presence of spilled or leaked material (standing liquid)
  - Corrosion and/or erosion of the system
  - Level of precipitation in diked area and available capacity versus design capacity; drainage records
  - Dike or berm permeability
  - Presence of debris
  - Operational status of drain valves or other drainage controls
  - Excessive vegetation
  - Holes or penetrations to the containment system created by burrowing animals

Role of EPA Inspector in Evaluating Secondary Containment Methods

- To evaluate whether a retention and drainage pond is adequate, look for:
  - Capacity of the system to contain oil
  - Erosion of the system
  - Cracks in containment system materials (e.g., concrete, liners, coatings, earthen materials)
  - Discoloration
  - Design capacity versus available capacity
  - Presence of spilled or leaked liquid
  - Presence of debris
  - Stressed vegetation
  - Evidence of water seeps from the system
  - Operational status of drain valves or other drainage controls



Relevant guidance document text:

The SPCC rule does not specifically define the term "sufficient freeboard," nor does it describe how to calculate this volume. The 1991 proposed amendment to the SPCC rule recommended the use of industry standards and data on 25-year storm events to determine the appropriate freeboard capacity. Numerous commenters on the 1991 proposal questioned the 25-year storm event recommendation and suggested alternatives, such as using 110 percent of storage tank capacity or using other characteristic storm events. EPA addressed these comments in the preamble to the 2002 rule:

> We believe that the proper standard of "sufficient freeboard" to contain precipitation is that amount necessary to contain precipitation from a 25-year, 24-hour storm event. That standard allows flexibility for varying climatic conditions. It is also the standard required for certain tank systems storing or treating hazardous waste. (67 FR 47117)

However, EPA did not set this standard as a requirement for freeboard capacity. Therefore, the use of precipitation data from a 25-year, 24-hour storm event is not enforceable as a standard for containment freeboard. In the preamble, EPA stated:

> While we believe that the 25-year, 24-hour storm event standard is appropriate for most facilities and protective of the environment, we are not making it a rule standard because of the difficulty and expense for some facilities of securing recent information concerning such storm events at this time.

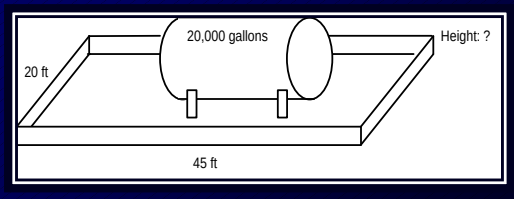
Ultimately EPA determined that, for freeboard, "the proper method of secondary containment is a matter of engineering practice so [EPA does] not prescribe here any particular method" (67 FR 47101). However, where data are available, the facility owner/operator (and certifying PE) should consider the appropriateness of the 25-year, 24-hour storm event precipitation level as a matter of good engineering practice.

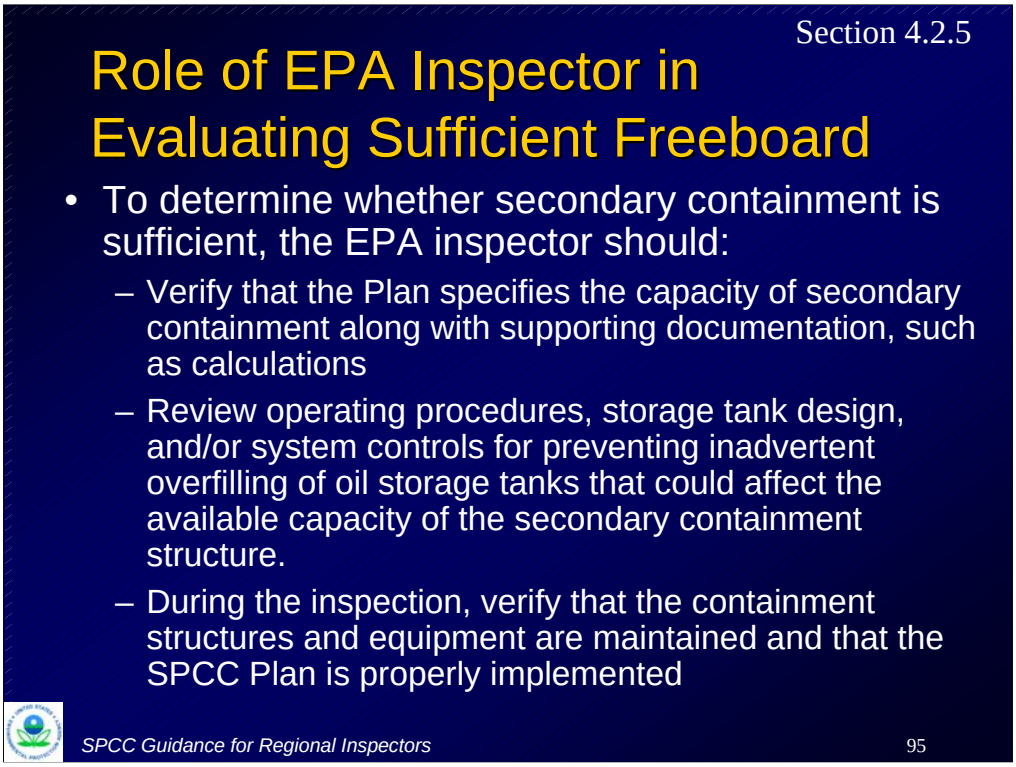
EPA recognizes that a "110 percent of storage tank capacity" rule of thumb may be a potentially acceptable design criterion in many situations, and that aboveground storage tank regulations in many states require that secondary containment be sized to contain at least 110 percent of the volume of the largest tank. However, in some areas, 110 percent of storage tank capacity may not provide enough volume to contain precipitation from storm events. Some states require that facilities consider storm events when designing secondary containment structures, and in certain cases these requirements translate to more stringent sizing criteria than the 110 percent rule of thumb. Other important factors may be considered in determining necessary secondary containment capacity.

Sample Calculation of Containment Size

Scenario:

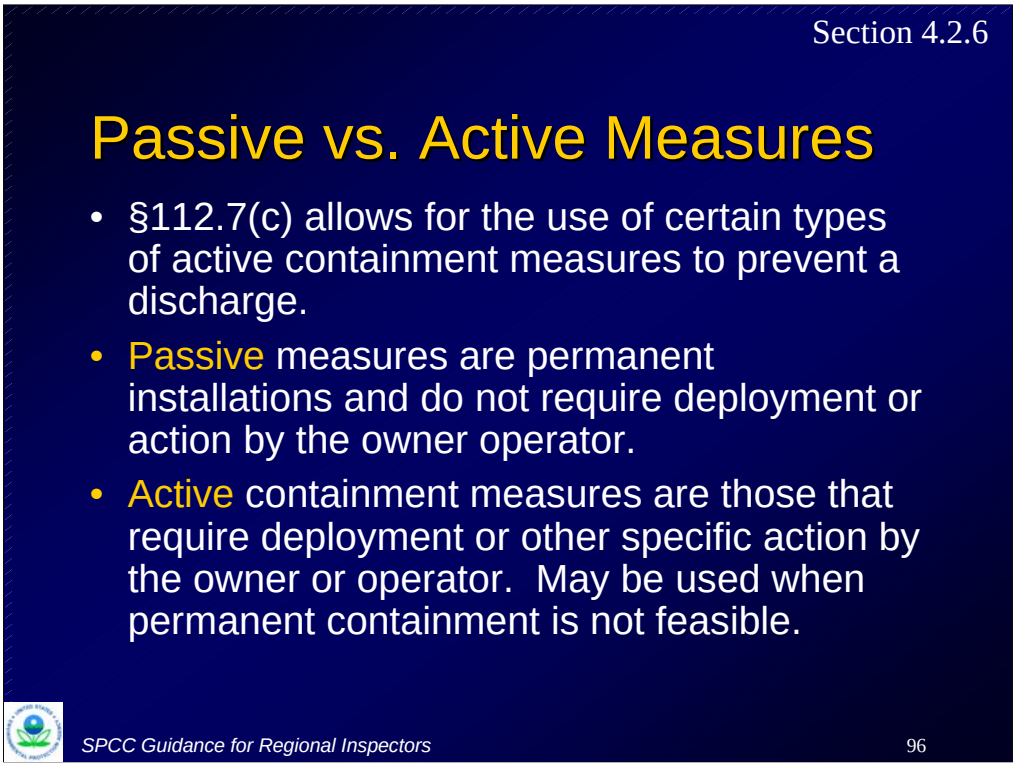
- 20,000-gallon horizontal tank placed within a concrete dike.
- Tank is 35 feet long by 10 feet in diameter.
- Secondary containment area provides a 5-foot buffer on all sides (i.e., dike dimensions are 45 feet x 20 feet).
- See Figures 4-5 and 4-6 in Guidance Document





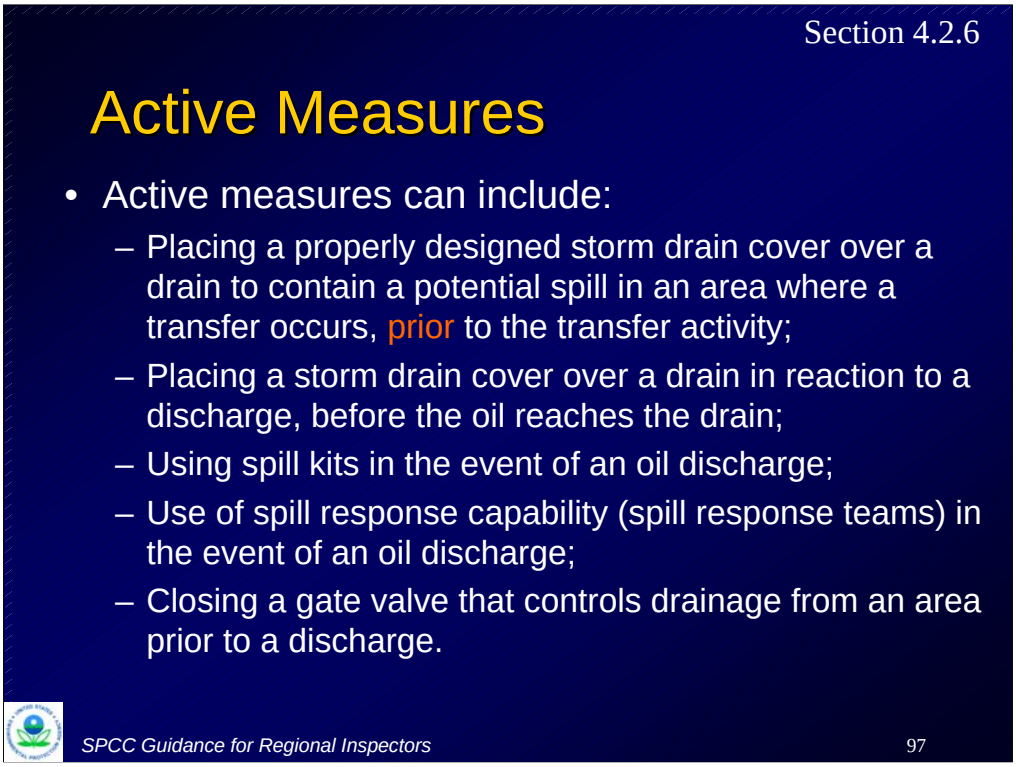
Relevant guidance document text:

When reviewing an SPCC Plan, the EPA inspector should evaluate whether the size of secondary containment is adequate to meet the freeboard requirement. When examining the secondary containment measures for bulk storage containers, mobile or portable oil containers, and production facility bulk storage containers, the inspector should ensure that the Plan documents that the secondary containment capacity can hold the entire capacity of the largest single container, plus sufficient freeboard to contain precipitation. Whatever method is used to calculate the amount of freeboard that is "sufficient" for the facility and container configuration should be documented in the Plan.



Relevant guidance document text:

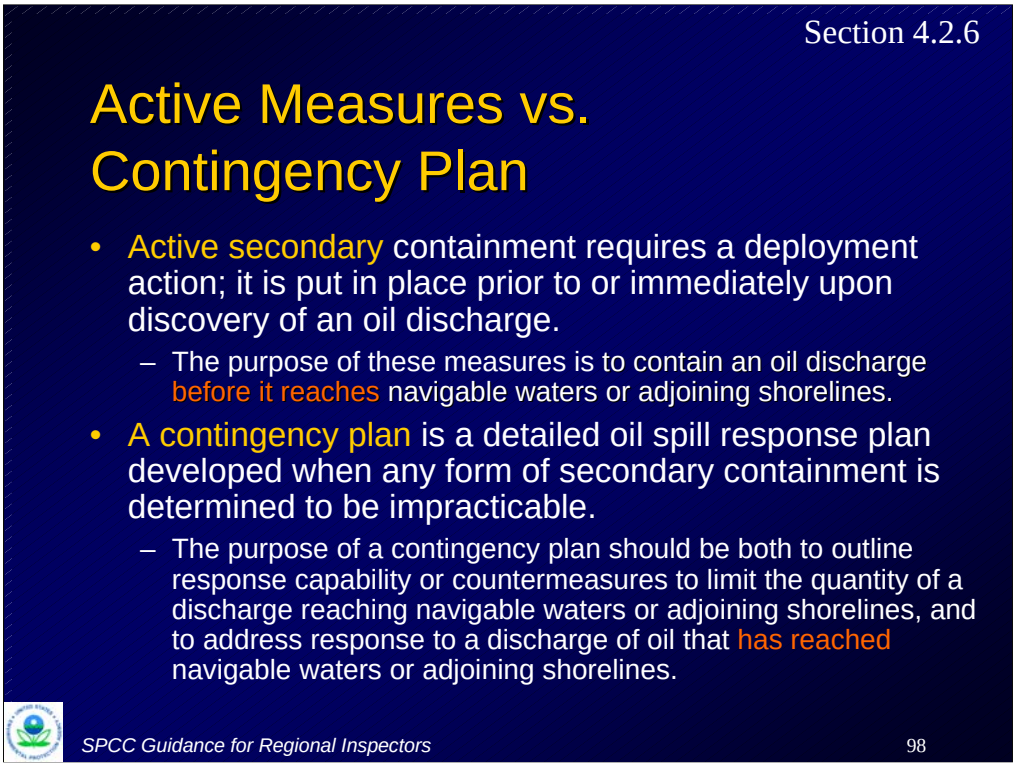
In some situations, permanent containment structures, such as dikes, may not be feasible (i.e., for certain electrical equipment). Section 112.7(c) allows for the use of certain types of active containment measures (countermeasures or spill response capability), which *prevent a discharge to navigable waters or adjoining shorelines.* Active containment measures are those that require deployment or other specific action by the owner or operator. These measures may be deployed either before an activity involving the handling of oil starts, or in reaction to a discharge so long as the active measure is designed to prevent an oil spill from reaching *navigable water or adjoining.* Passive measures are permanent installations and do not require deployment or action by the owner/operator.



Relevant guidance document text:

The efficacy of active containment measures to prevent a discharge depends on their technical effectiveness (e.g., mode of operation, absorption rate), placement and quantity, and timely deployment prior to or following a discharge. For discharges that occur only during manned activities, such as those occurring during transfers, an active measure (e.g, sock, mat, other portable barrier, or land-based response capability) may be appropriate, provided that the measure is capable of containing the oil discharge volume and rate, and is timely and properly constructed/deployed. Ideally, in order to further reduce the potential for a discharge to reach navigable waters or adjoining shorelines, the active measure should be deployed prior to initiating the activity with potential for a discharge.

Active measures are not appropriate for all situations with the potential for an oil discharge. As noted above, active measures often have limited absorption or containment capacity. Additionally, storage tanks, piping, and other containers pose a risk of discharge during off-hour periods when facility personnel are generally not on-site or are too few in number to detect a discharge in a timely manner and deploy the containment measure(s). Pre-deployment of active measures in a “fixed” configuration may be problematic since sorbent materials or portable barriers are typically not engineered for long-term deployment, and their performance may be affected by precipitation, ultraviolet light degradation, or cold temperature. Moreover, in some cases, the deployment of an active measure can interfere with other systems; for example, by impeding the proper operation of drainage structures (e.g., drain cover). For these reasons, EPA generally believes that dikes/berms, curbing, spill diversion ponds, or other similarly fixed, engineered structures remain the most effective means of spill control and containment for oil storage containers.

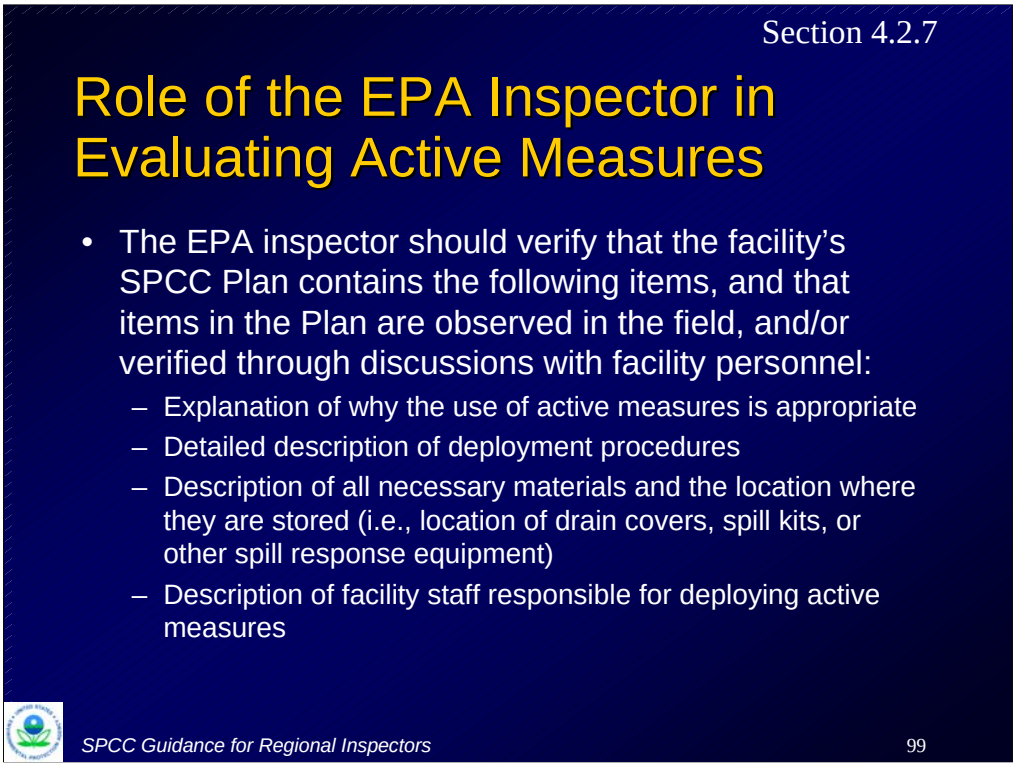


Relevant guidance document text:

Land-Based Response Capability is used to describe any active measure that is deployed/implemented immediately upon discovery of a discharge before the discharge reaches navigable waters or adjoining shorelines.

Contingency Plan is used to describe measures for controlling, containing, and recovering oil that has been discharged into or upon navigable waters or adjoining shorelines in such quantities as may be harmful.

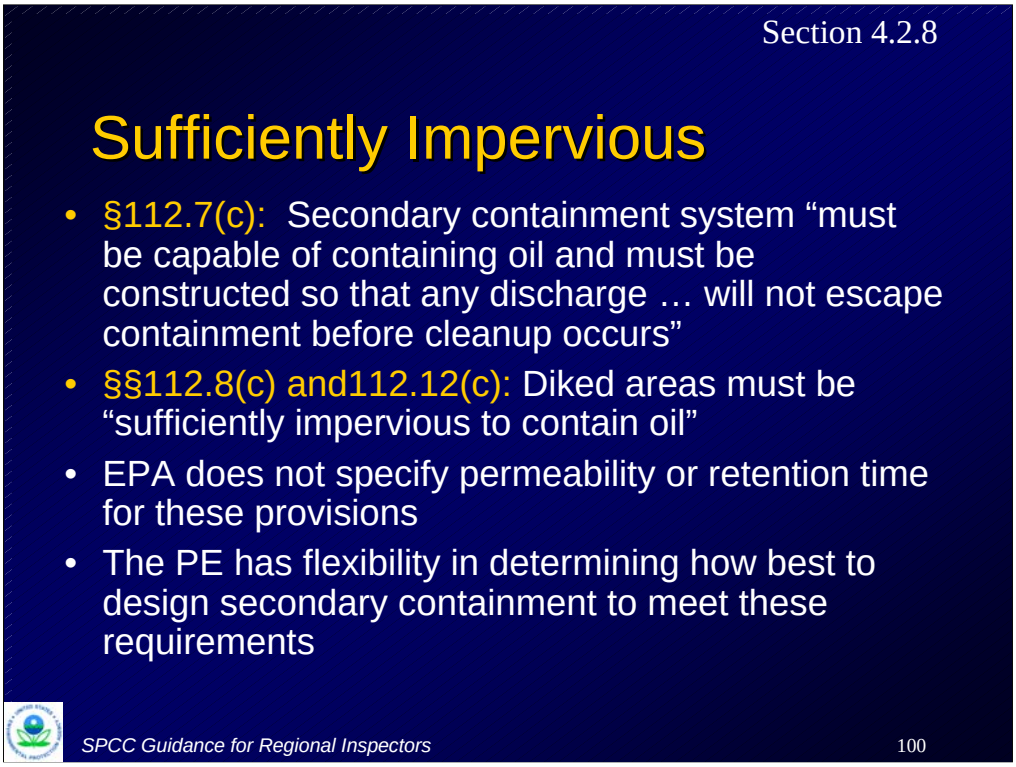
There is a subtle but important difference between active containment measures (countermeasures, including land-based response capability) and an oil spill contingency plan as described in §112.7(d). Active secondary containment (as opposed to permanent or passive containment structures) requires a deployment action; it is put in place prior to or immediately upon discovery of an oil discharge. The purpose of these measures is *to contain an oil discharge before it reaches navigable waters or adjoining shorelines;* alternatively, a contingency plan, for SPCC purposes, is a detailed oil spill response plan developed when any form of secondary containment is determined to be impracticable. A contingency plan addresses controlling, containing, and recovering an oil discharge in quantities that may be harmful to navigable waters or adjoining shorelines. The purpose of a contingency plan should be both to outline response capability or countermeasures to limit the quantity of a discharge reaching navigable waters or adjoining shorelines (if possible), and to address *response to a discharge of oil that has reached navigable waters or adjoining shorelines*



Relevant guidance document text:

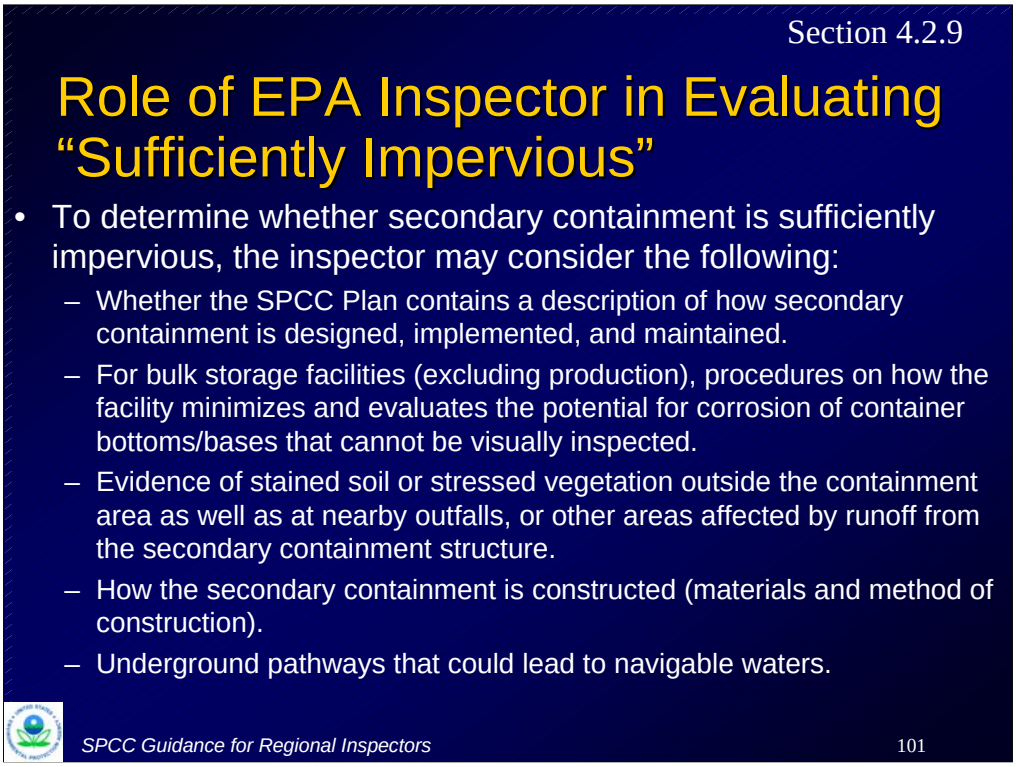
Inspectors should carefully evaluate the use of active measures and determine if the equipment and personnel are available for deployment of this secondary containment method. The EPA inspector should inspect the facility to determine whether the active measures are appropriate for the facility – i.e., the inspector should note whether material storage locations are reasonable given the time necessary to deploy measures, and whether the amount of available materials is sufficient to handle the anticipated discharge volume. In addition, the inspector should document whether the facility is keeping the necessary records.

Upon inspection, a facility owner/operator should be able to demonstrate that facility personnel are able to carry out the deployment procedure as written. The EPA inspector should verify that the facility's SPCC Plan contains the following items, and that items in the Plan are observed in the field and/or verified through discussions with facility personnel**.**



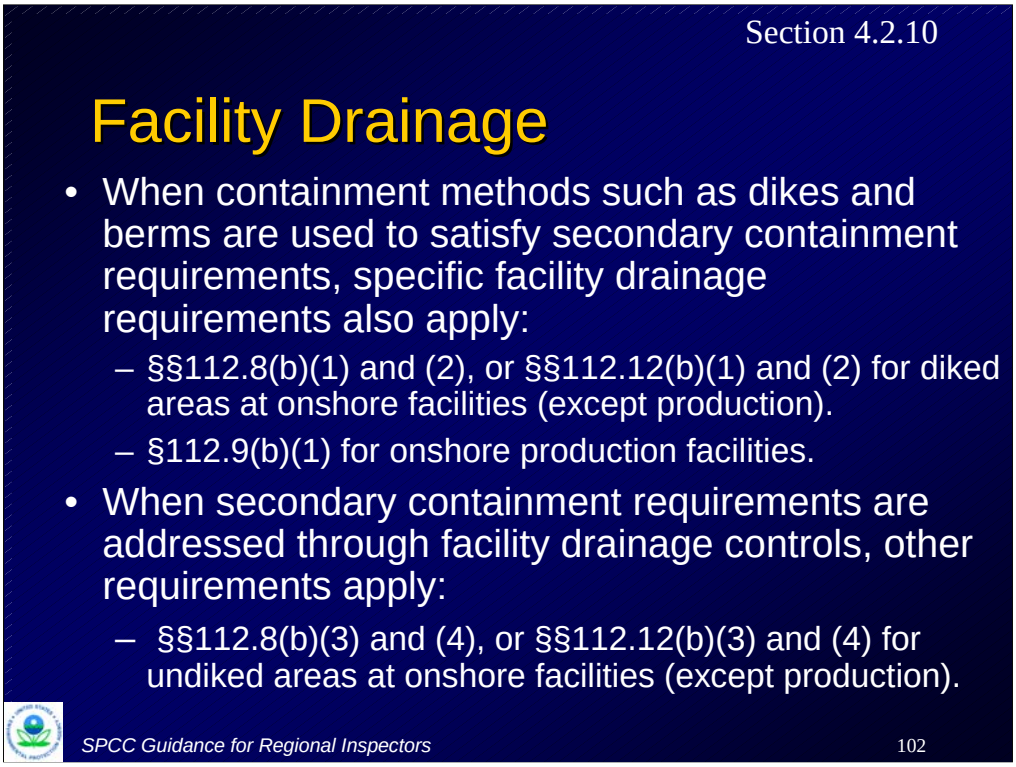
Relevant guidance document text:

Section 112.7(c) states that the entire secondary containment system, "including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system ... will not escape containment before cleanup occurs." With respect to bulk storage containers at onshore facilities (except production facilities), §§112.8(c)(2) and 112.12(c)(2) state that diked areas must be "sufficiently impervious to contain oil." The purpose of the secondary containment requirement is to prevent discharges as described in §112.1(b); therefore, effective secondary containment methods must be able to contain oil until the oil is cleaned up. EPA does not specify permeability or retention time performance criteria for these provisions. Instead, EPA gives the owner/operator and the certifying PE flexibility in determining how best to design the containment system to prevent a discharge as described in §112.1(b). This determination is based on a good engineering practice evaluation of the facility configuration, product properties, and other site-specific conditions. For example, EPA believes that a sufficiently impervious retaining wall, or dike/berm, including the walls and floors, must be constructed so that any discharge from a primary containment system will not escape the secondary containment system before cleanup occurs and before the discharge reaches navigable waters and adjoining shorelines (§§112.7(c), 112.8(c)(2) and 112.12(c)(2)). Ultimately, the determination of imperviousness should be verified by the certifying PE.



Relevant guidance document text:

The EPA inspector should determine whether the facility's secondary containment is sufficiently impervious, based on a review of the SPCC Plan and on an observation of site conditions. The EPA inspector may ask to see any calculations/engineering justifications used in determining levels of imperviousness; this information, including calculations, should be maintained with the Plan to facilitate the inspector's review.

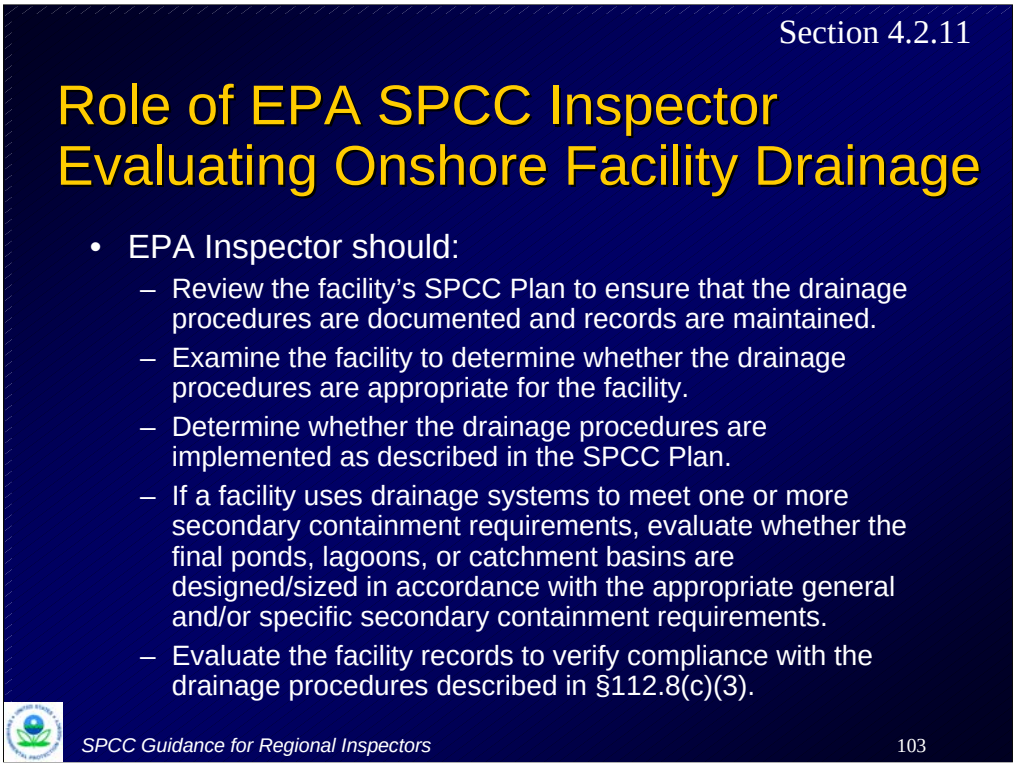


Relevant guidance document text:

When containment methods such as dikes and berms are used to satisfy the secondary containment requirements of the rule such as §§112.7(c) and 112.8(c)(2), the specific facility drainage requirements also apply. The specific requirements for diked areas at onshore facilities (except production) are found in §§112.8(b)(1), 112.8(b)(2), 112.12(b)(1), and 112.12(b)(2); for diked areas at onshore production facilities they are found in §112.9(b)(1). Drainage from diked storage areas can be accomplished by several means such as valves, manually activated pumps, or ejectors. If dikes are drained using valves, they must be of manual design to prevent an uncontrolled discharge outside of the dike, such as into a facility drainage system or effluent treatment system, except where facility systems are designed to control such a discharge (§§112.8(b)(1) and 112.12(b)(1)). At oil production facilities, drains on secondary containment systems (both dikes and other equivalent measures required under §112.7(c)(1)) must be closed and sealed at all times, except when draining uncontaminated rainwater (§112.9(b)(1)). Although not required by the rule, owners and operators should strongly consider locking valves controlling dike or remote impoundment areas, especially when they can be accessed by non-facility personnel.

When secondary containment requirements are addressed through facility drainage controls, the requirements in §112.8(b)(3) and (4), or §112.12(b)(3) and (4) apply. For example, a facility may choose to use the existing storm drainage system to meet secondary containment requirements by channeling discharged oil to a remote containment area to prevent a discharge as described in §112.1(b). The facility drainage system must be designed to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. Catchment basins must not be located in areas subject to periodic flooding (§§112.8(b)(3) and 112.12(b)(3)).

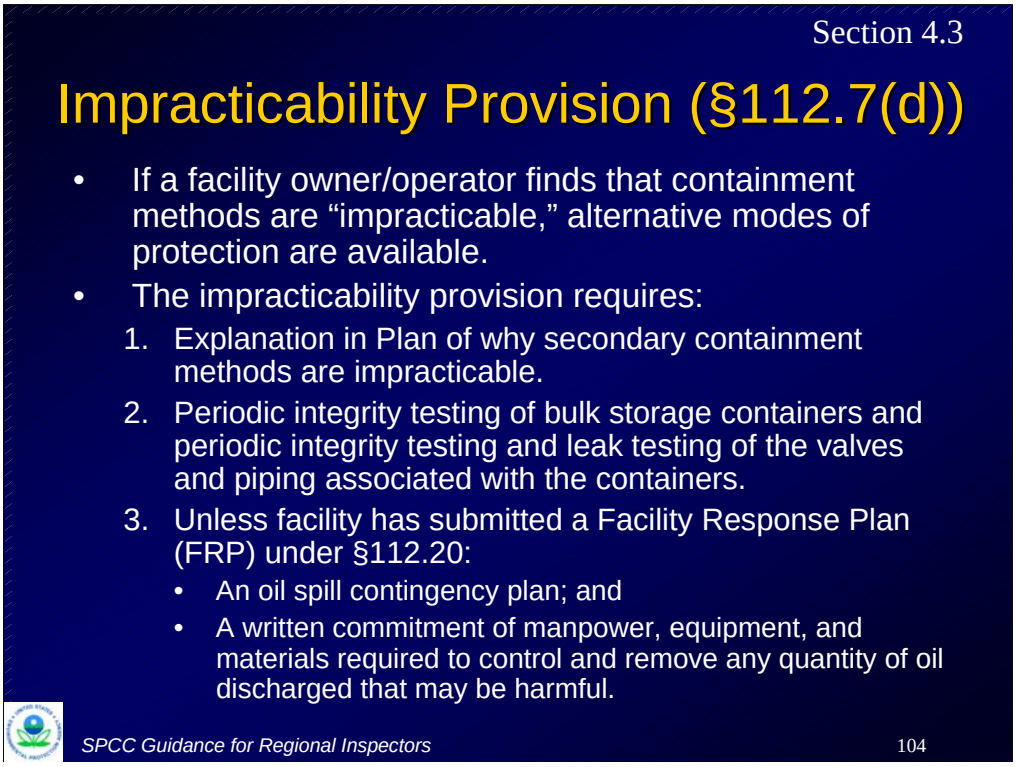
A facility does not have to address the undiked area requirements of §112.8(b)(3) and (4) or §112.12(b)(3) and (4) if the facility does not use drainage systems to meet one of the secondary containment requirements in the SPCC rule. For example, if the SPCC Plan documents the use of an active containment measure (such as a combination of sorbents and a spill mat), which is effective to prevent a discharge as described in §112.1(b), then secondary containment has been provided and it is not necessary to alter drainage systems at the facility. The facility drainage system design requirements in §112.8(b)(3) and (4) or §112.12(b)(3) and (4) apply only when the facility uses these drainage systems to comply with the secondary containment provisions of the rule such as §§112.7(c) and 112.8(c)(2).



Relevant guidance document text:

The EPA inspector should determine if the facility's documentation in the Plan identifies whether the final ponds, lagoons, or catchment basins are designed/sized to meet the appropriate general and/or specific secondary containment requirements.

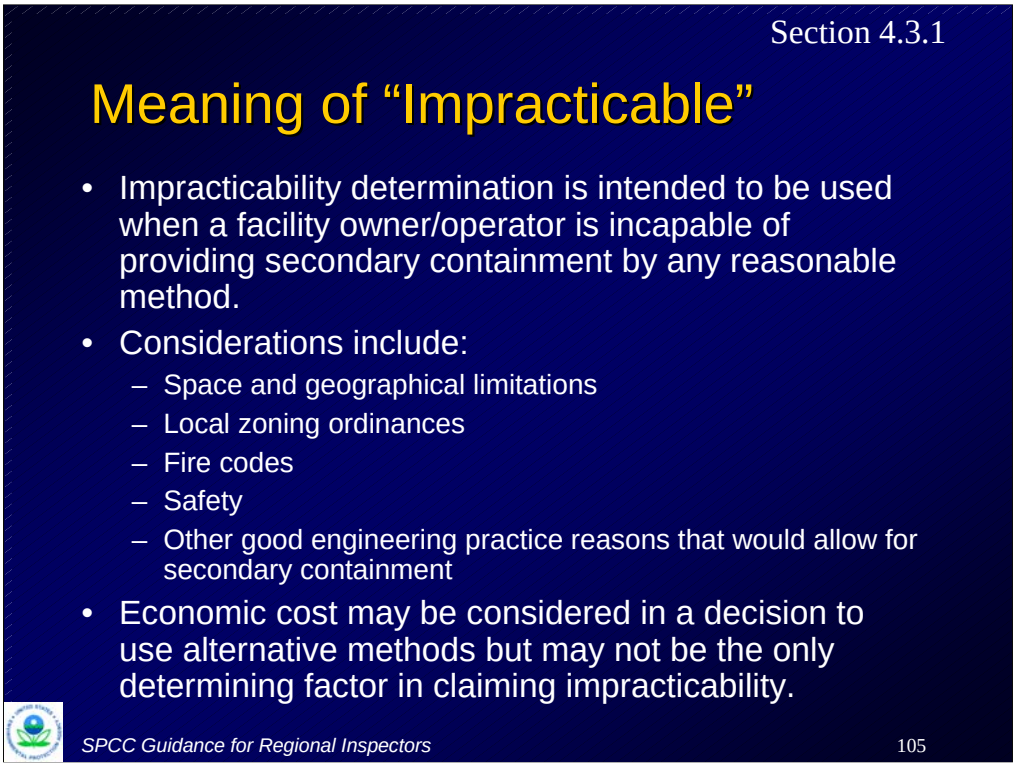
The facility drainage requirements of §§112.8(b) and 112.12(b) are design standards for secondary containment (not additional secondary containment requirements) and are therefore eligible for deviations that provide equivalent environmental protection in compliance with §112.7(a)(2) and as determined appropriate by a PE.



Relevant guidance document text:

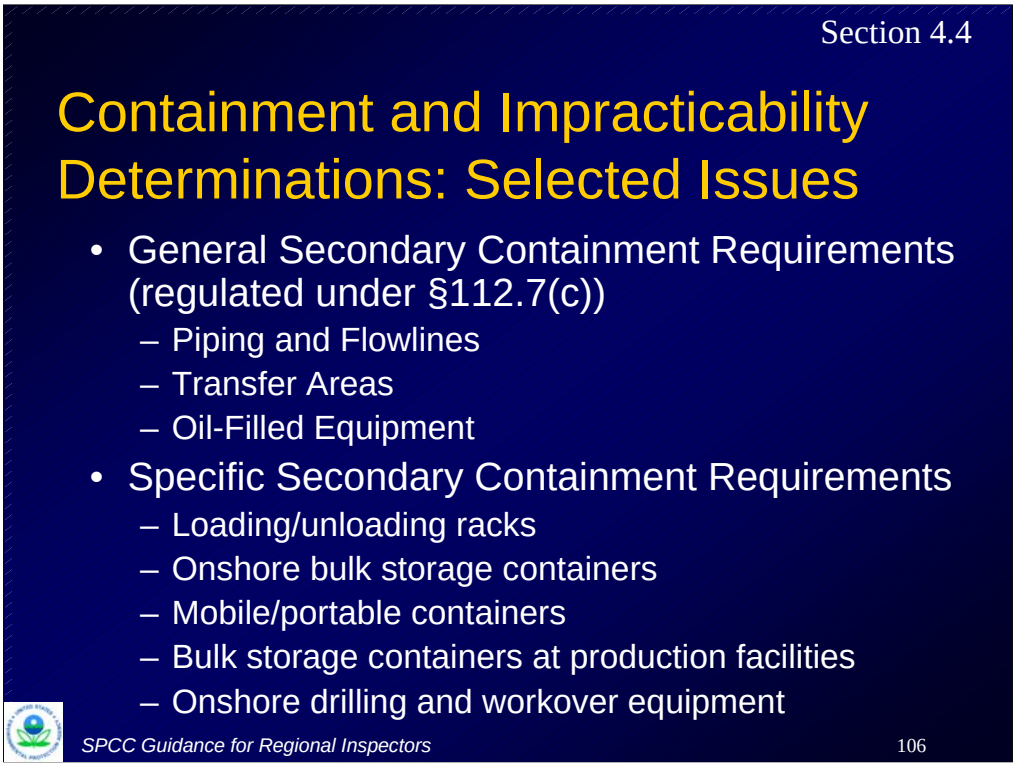
EPA recognizes that, although engineered passive containment systems (such as dikes and drainage systems) or active secondary containment approaches are preferable, they may not always be practicable. If a facility owner/operator finds that containment methods are "impracticable," alternative modes of protection to prevent and contain oil discharges are available. The impracticability provision found in §112.7(d) allows facility owners/operators to substitute a combination of other measures in place of secondary containment: (1) periodic integrity testing of bulk storage containers and periodic integrity testing and leak testing of the valves and piping associated with the containers; (2) unless they have submitted a Facility Response Plan (FRP) under §112.20, an oil spill contingency plan; and (3) a written commitment of manpower, equipment, and materials required to control and remove any quantity of oil discharged that may be harmful.

If an impracticability determination is made, the SPCC Plan must clearly describe why secondary containment measures are impracticable and how the specified additional measures are implemented (§112.7(d)). See Section 4.5 of this chapter for more information on the additional measures. The option of determining impracticability assumes that it is feasible to effectively and reliably implement a contingency plan. Facilities should be aware that an impracticability determination may affect the applicability of the FRP requirements under 40 CFR part 112 subpart D. In addition, an impracticability determination may affect the calculation of the worst case discharge volume, which may impact the amount of resources required to respond to a worst case discharge scenario.



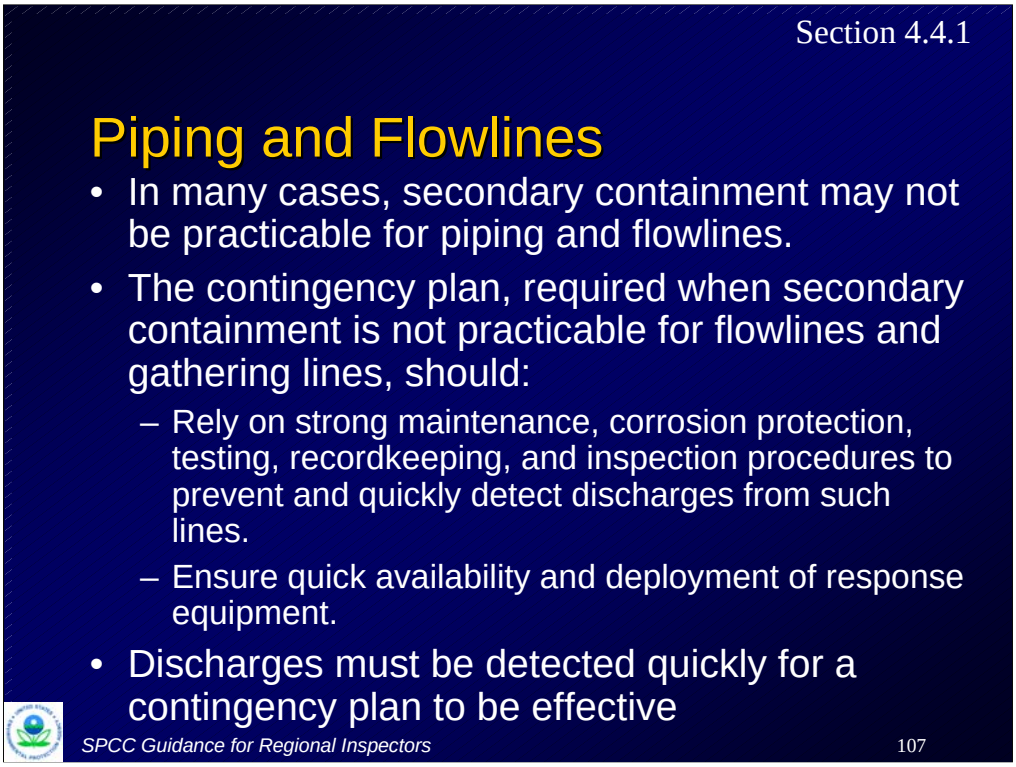
Relevant guidance document text:

The impracticability determination is intended to be used when a facility owner/operator is incapable of installing secondary containment by any reasonable method. Considerations include space and geographical limitations, local zoning ordinances, fire codes, safety, or other good engineering practice reasons that would not allow for secondary containment (67 FR 47104). EPA clarified in a *Federal Register* notice that economic cost may be considered as one element in a decision on alternative methods, consistent with good engineering practice for the facility, but may not be the only determining factor in claiming impracticability



Supplemental Information:

The secondary containment requirements found in §112.7(c) apply to any area within a regulated facility where a discharge may occur. Piping, flowlines, non-bulk containers such as oil-filled operational equipment and manufacturing equipment, and non-rack transfer areas are subject to the general secondary containment requirements.

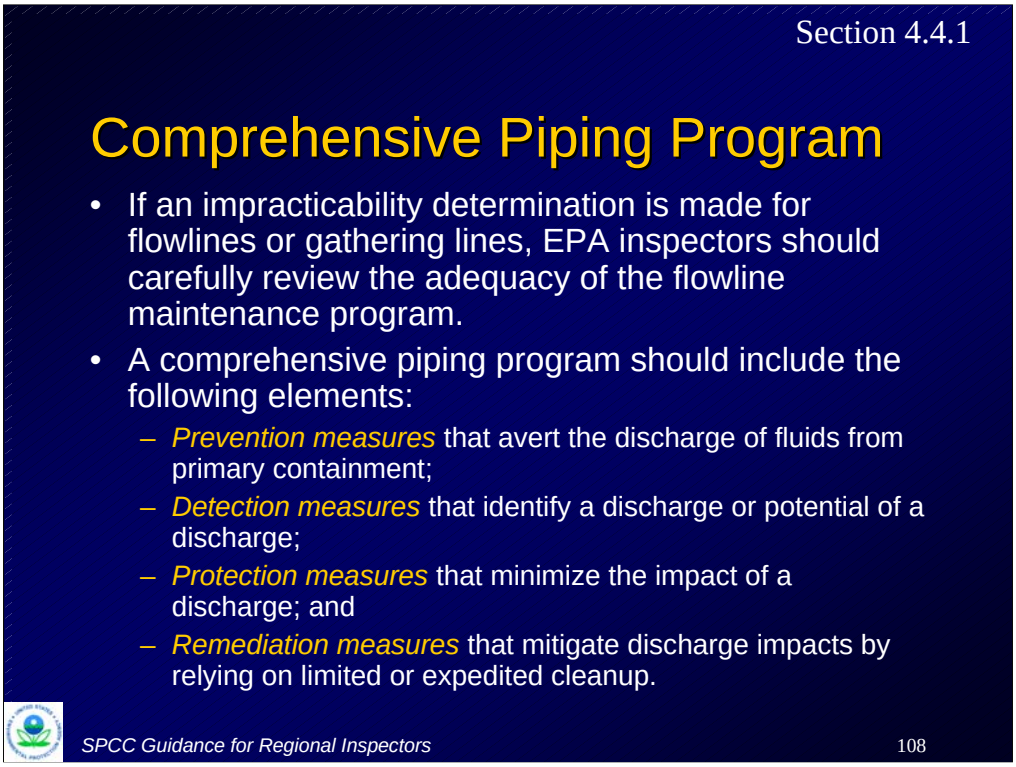


Relevant guidance document text:

Examination of discharge reports from the Emergency Response Notification System (ERNS) shows that discharges from valves, piping, flowlines, and appurtenances are much more common than catastrophic tank failure or discharges from tanks (67 FR 47124). To prevent a discharge as described in §112.1(b), all piping, including buried piping and flowlines, at regulated facilities must comply with the general secondary containment requirements contained in §112.7(c).

In certain cases, secondary containment for piping will be possible. Section 112.7(c) provides flexibility in the method of secondary containment: active measures including land-based response capability, sorbent materials, drainage systems, and other equipment are acceptable. Section 112.7(c) does not prescribe a specific containment size for piping and flowlines; however, good engineering practice prescribes that containment size should be based on the magnitude of a reasonable discharge scenario, taking into consideration the specific features of the facility and operation. A determination of adequate secondary containment should consider the reasonably expected sources, maximum flow rate, duration of a discharge, and detection capability. The EPA inspector should ensure that the secondary containment method for piping and flowlines is documented in the SPCC Plan and that the PE has certified that the method is appropriate for the facility according to good engineering practice. If active methods of containment are selected, the facility personnel should be able to demonstrate that they can effectively deploy these measures to contain a potential spill before it reaches navigable waters or adjoining shorelines.

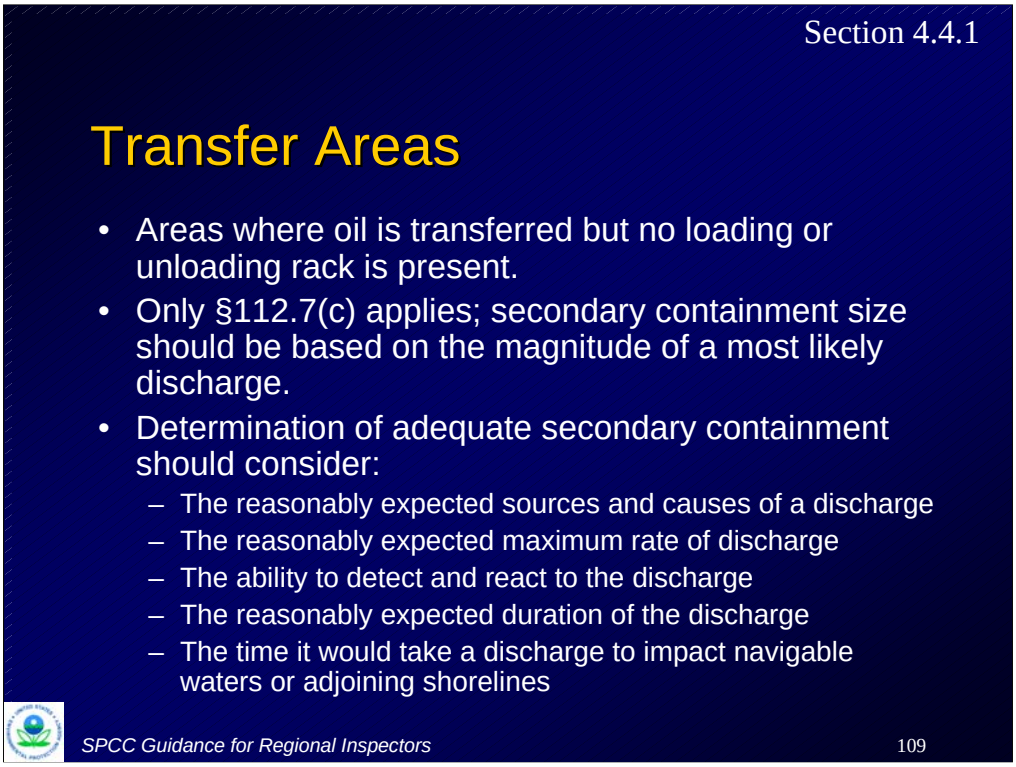
EPA acknowledges that in many cases, secondary containment may not be practicable for flowlines and gathering lines. For example, a production facility in a remote area may have many miles of flowlines and gathering lines, around which it would not be practicable to build permanent containment structures. For instance, it may not be possible to install secondary containment around flowlines running across a farmer's or rancher's fields since berms may become severe erosional features of the fields and can impede access to the fields by farm/ranch tractors and other equipment. Similarly, it may be impracticable to construct secondary containment around flowlines that run along a fence line or county road due to space limitations or intrusion into a county's property or right-of-way. At unmanned facilities, the use of active secondary containment methods is not possible because there is limited capability to detect a discharge and deploy active measures in a timely fashion. If secondary containment is not practicable, facility owners/operators may make an impracticability determination and comply with the additional regulatory requirements described in §112.7(d).



Relevant guidance document text:
The preamble of the 2002 SPCC rule (67 FR 47078) states that the contingency plan required when secondary containment is not practicable for flowlines and gathering lines should rely on strong maintenance, corrosion protection, testing, recordkeeping, and inspection procedures to prevent and quickly detect discharges from such lines. It should also ensure quick availability and deployment of response equipment. The integrity testing program for piping and valves should also be developed in accordance with good engineering practice, in order to prevent a discharge as described in §112.1(b). A flowline maintenance program is required for production facilities under §112.9(d)(3). (See Chapter 7 of this document for a summary of the recommended key elements of a flowline maintenance program.) It is especially important that facility owners or operators who determine that secondary containment is impracticable implement a comprehensive flowline maintenance program. If an impracticability determination is made for flowlines or gathering lines, EPA inspectors should extensively and carefully review the adequacy of the flowline maintenance program. According to practices recommended by industry groups such as API, a comprehensive piping program should include the following elements**:**

- **Prevention measures** that avert the discharge of fluids from primary containment;
- **Detection measures** that identify a discharge or potential for a discharge;
- **Protection measures** that minimize the impact of a discharge; and
- **Remediation measures** that mitigate discharge impacts by relying on limited or expedited cleanup.

In order for a contingency plan to be effective, it is essential for discharges to be detected in a timely manner. Good engineering practice may require that unmanned facilities where secondary containment is impracticable be inspected more frequently than would be required at a typical unmanned facility where secondary containment is provided. For facilities that do not have a Facility Response Plan (FRP) pursuant to §112.20, if it is not feasible to effectively and reliably implement a contingency plan, owners/operators must determine how to comply with the applicable secondary containment requirements in §112.7(c). A contingency plan or FRP is required when a determination of impracticability is made, pursuant to §112.7(d).



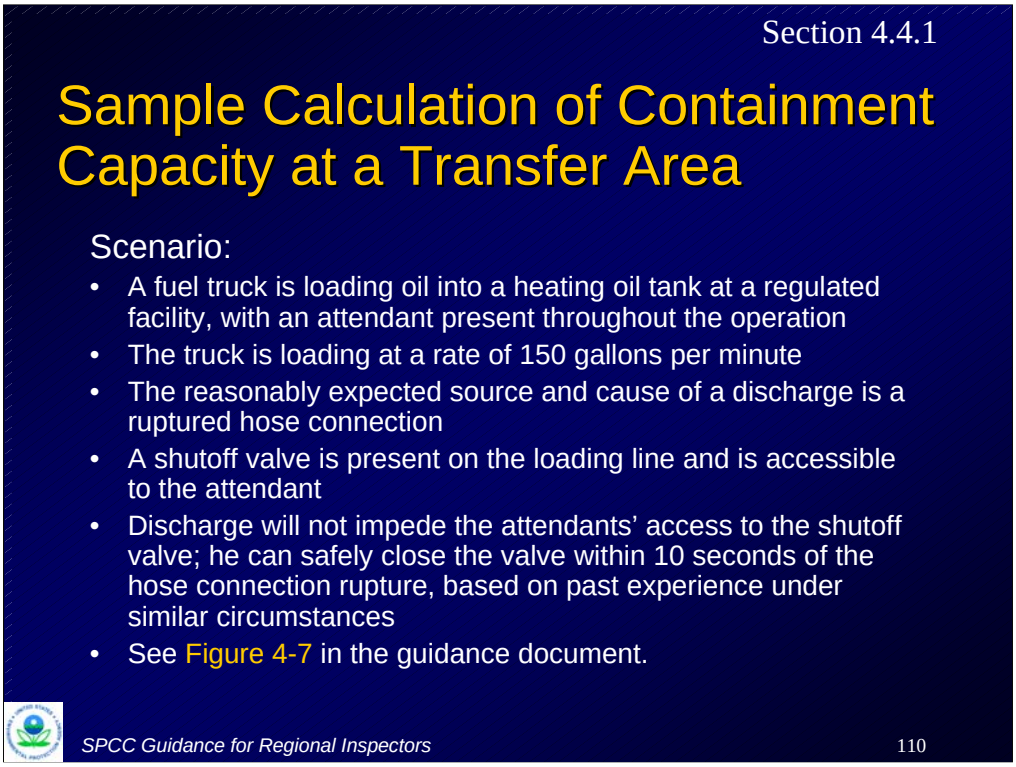
Relevant guidance document text:

A transfer operation is one in which oil is moved from or into some form of transportation, storage, equipment, or other device, into or from some other or similar form of transportation, such as a pipeline, truck, tank car, or other storage, equipment, or device (67 FR 47130). Areas where oil is transferred but no loading or unloading rack is present are subject to §112.7(c), and thus appropriate containment and/or diversionary structures are required. EPA does not require specifically sized containment for transfer areas; however, containment size must be based on good engineering practice (§112.3(d)).

The containment requirement at §112.7(c) applies to both loading and unloading areas. Examples of activities that occur within transfer areas include:

- Unloading oil from a truck to a heating oil tank;
- Loading oil into a vehicle from a dispenser; and
- Transferring crude oil from an oil production tank battery into tank trucks.

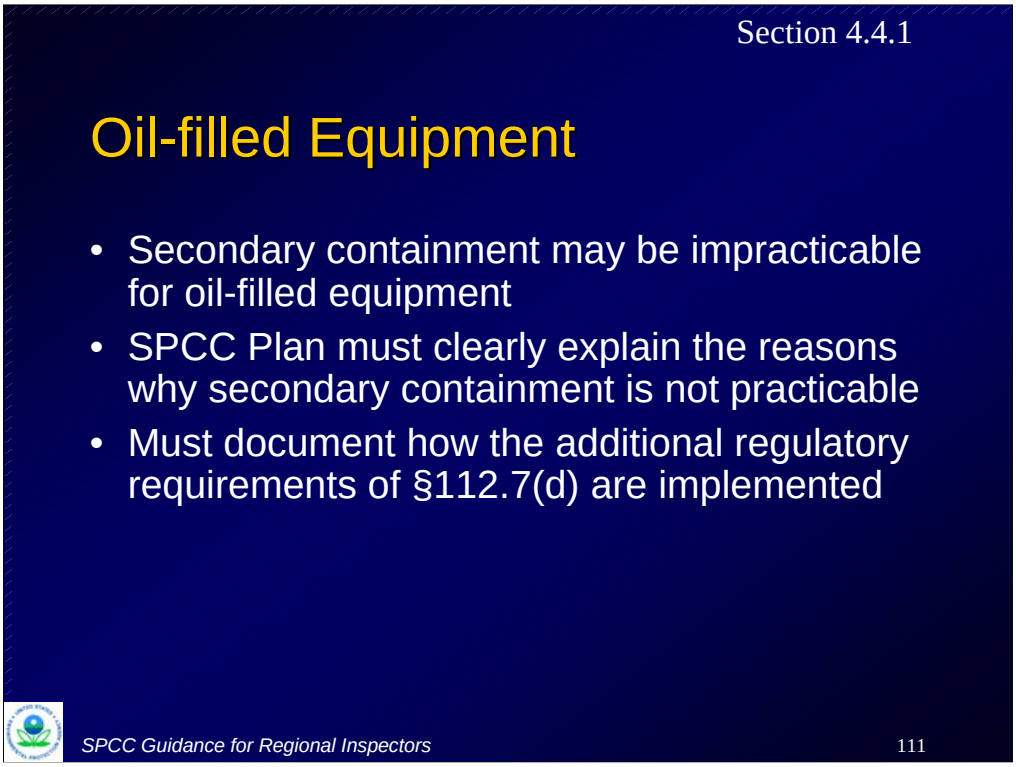
Secondary containment size should be based on the magnitude of a most likely discharge, taking into consideration the specific features of the facility and operation. Specific features of different loading/unloading operations include the hardware, procedures, and personnel who are able to take action to limit the volume of a discharge.



Relevant guidance document text:

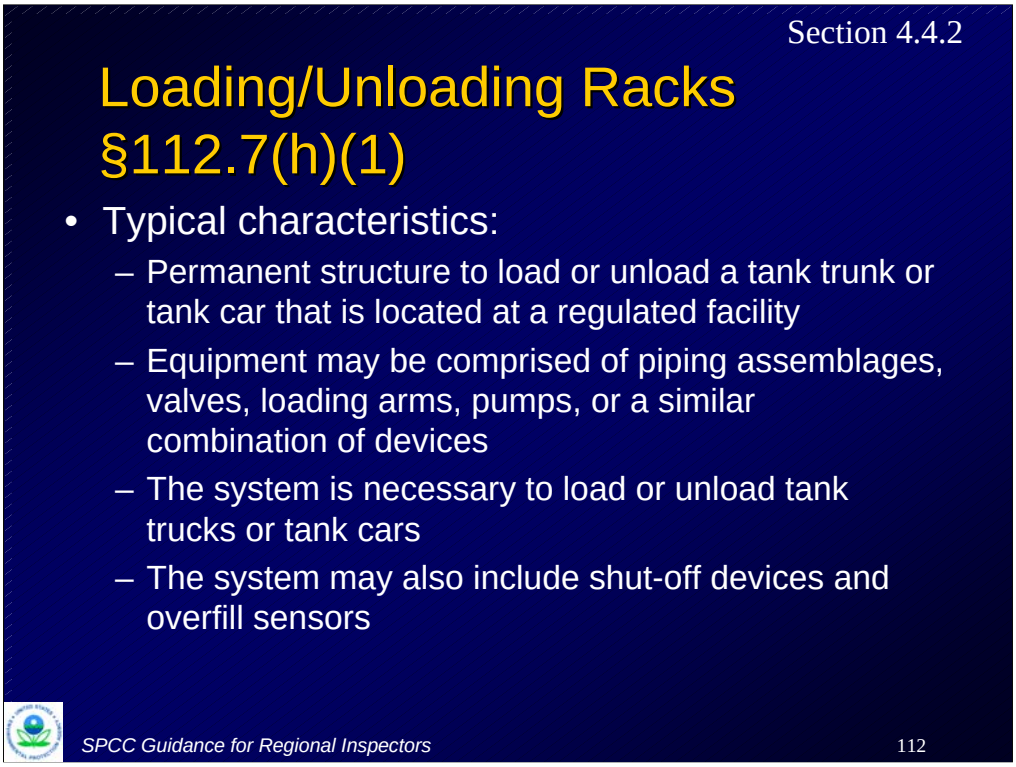
A number of other factors may also affect the appropriate volume for secondary containment at loading and unloading areas. These factors include a variable rate of transfer; the ability to control a discharge from a breached container, if such a breach is reasonably expected to occur; the availability of personnel in close proximity to the operations and the necessary time to respond; the presence or absence of monitoring instrumentation to detect a discharge; the type and location of valving that may affect the probable time needed to stop the discharge; and the presence or absence of automatic valve actuators. These are a few examples of the factors that a PE may consider when reviewing the adequacy of secondary containment systems at a facility. The EPA inspector may consider the same factors when assessing the adequacy of secondary containment.

Secondary containment structures, such as dikes or berms, may not be appropriate in areas where vehicles continuously need access; however, curbing, drainage systems, active measures, or a combination of these systems can adequately fulfill the secondary containment requirements of §112.7(c). A facility owner or operator may implement methods for secondary containment other than dikes or berms. For example, a transfer truck loading area at an onshore oil production facility may be designed to drain discharges away to a topographically lower area using a crescent or eyebrow-shaped berm. EPA acknowledges that in certain situations, secondary containment at transfer areas may be impracticable due to geographic limitations, fire codes, etc. In these cases, owners/operators may determine that secondary containment is impracticable under §112.7(d), and must clearly explain the reasons why secondary containment is not practicable and comply with the additional regulatory requirements.



Relevant guidance document text:

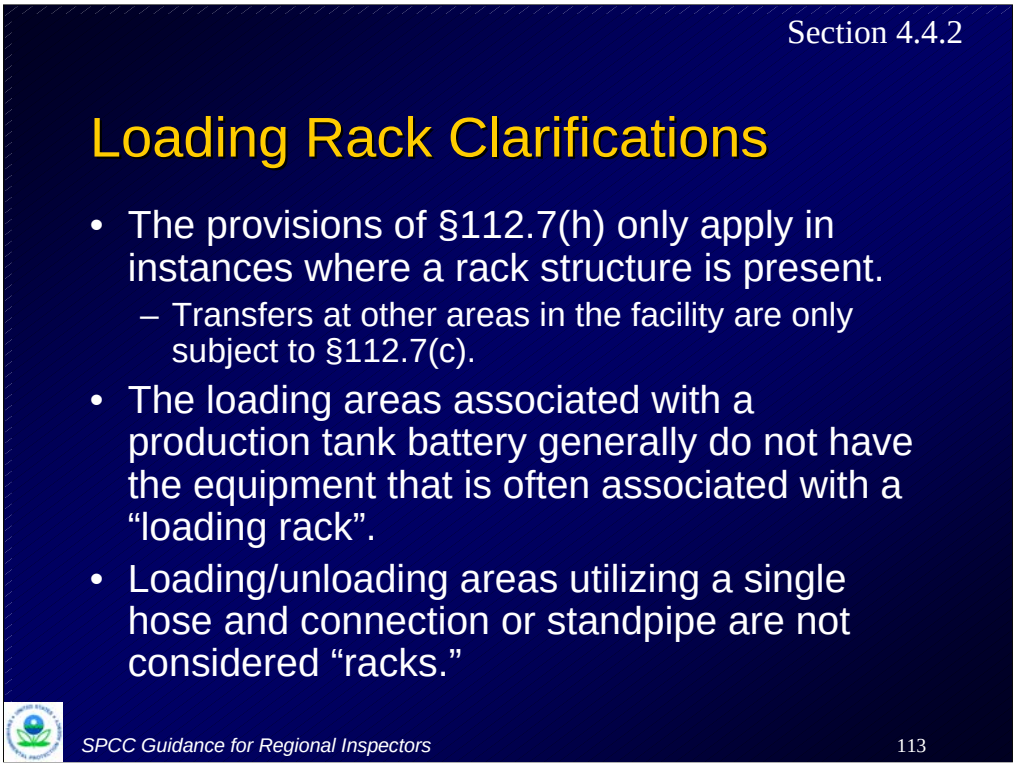
Secondary containment may be impracticable for oil-filled equipment (e.g., vaulted transformers, hydraulic units associated with an elevators/lifts, pad-mounted transformers at customer sites, and oil-filled cable systems) that are not readily accessible or cross properties belonging to different owners. In these cases, the SPCC Plan must clearly explain the reasons why secondary containment is not practicable and comply with the additional regulatory requirements under §112.7(d). For more information on oil-filled operational equipment, refer to Section 2.8.2 of this guidance document.



Relevant guidance document text:

Section 112.7(h) applies to areas at regulated facilities where traditional loading/unloading racks for tank cars and tank trucks are located. Loading and unloading racks are subject to the specific secondary containment requirements in §112.7(h)(1). EPA inspectors should evaluate compliance with the requirements of §112.7(h) for equipment traditionally considered to be "loading racks." While the SPCC rule does not provide a definition for the term "rack," the type of equipment for which these requirements would typically apply has the following characteristics:

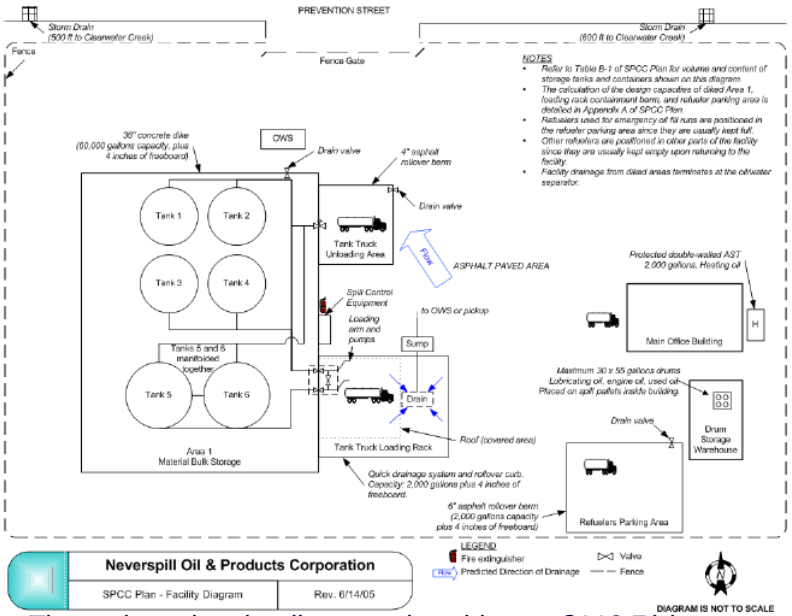
- The equipment is a permanent structure for loading or unloading a tank truck or tank car that is located at a regulated facility.
- The equipment may be comprised of piping assemblages, valves, loading arms, pumps, or a similar combination of devices.
- The system is necessary to load or unload tank trucks or tank cars.
- The system may also include shut-off devices and overfill sensors.



Relevant guidance document text:

Where drainage from the areas surrounding a loading/unloading rack does not flow into a catchment basin or treatment facility designed to handle discharges, facility owners and operators must use a quick drainage system (§112.7(h)(1)). A “quick drainage system” is a device that drains oil away from the loading/unloading area to some means of secondary containment or returns the oil to the facility. Section 112.7(h)(1) requires a sized secondary containment system: the containment must hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility. Loading and unloading activities that take place beyond the rack area are not subject to the requirements of §112.7(h), but are subject, where applicable, to the general containment requirements of §112.7(c).

Facility with Separate Unloading Area and Loading Rack

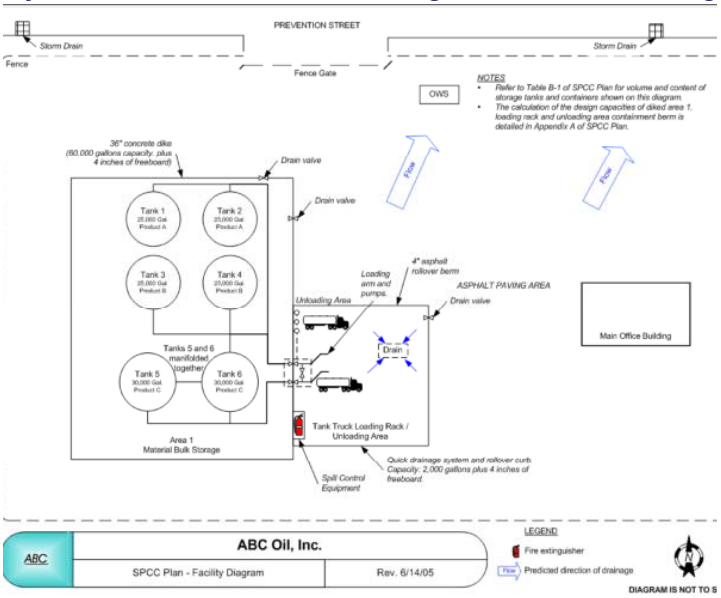


The tank truck unloading area is subject to §112.7(c).
The tank truck loading rack is subject to §112.7(h)(1).

Relevant guidance document text:

In this figure, the facility has two separate and distinct areas for transfer activities. One is a tank truck unloading area and the other contains a tank truck loading rack. The unloading area contains no rack structure, so the secondary containment requirements of §112.7(c) apply. The requirements of §112.7(h)(1) apply to the area surrounding the loading rack. It should be noted that the presence of a loading rack at one location of a facility does not subject other loading or unloading areas in a separate part of the facility to the requirements of §112.7(h).

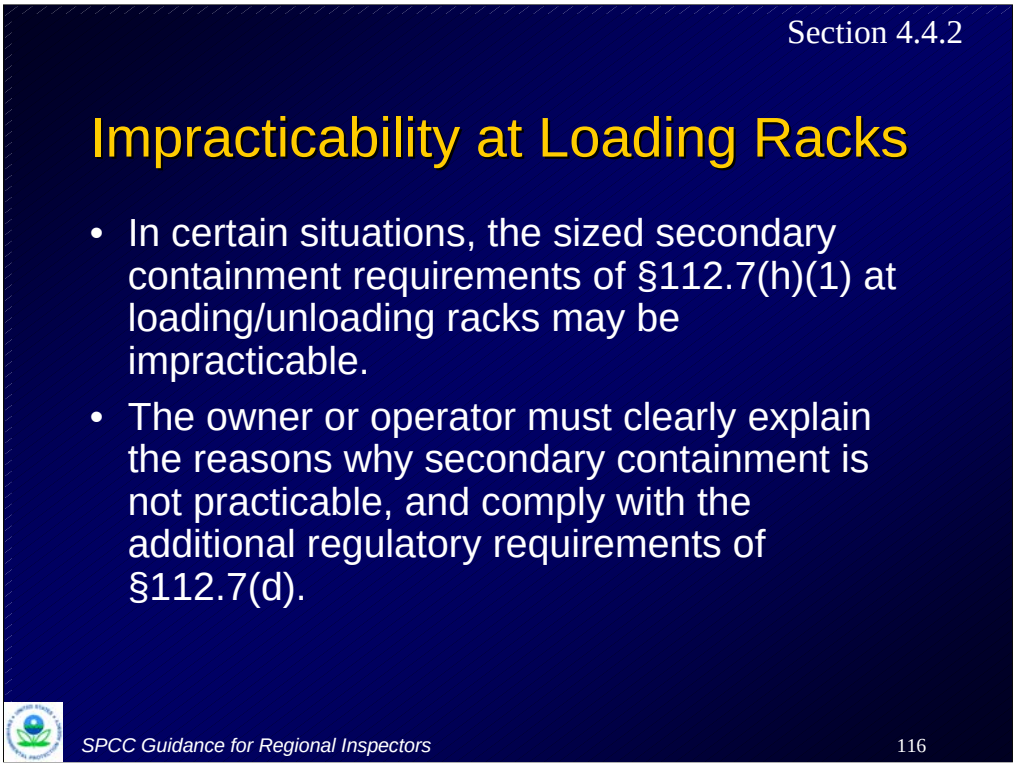
Facility with Co-located Unloading Area and Loading Rack



The containment area is designed to meet the more stringent requirements of §112.7(h)(1).

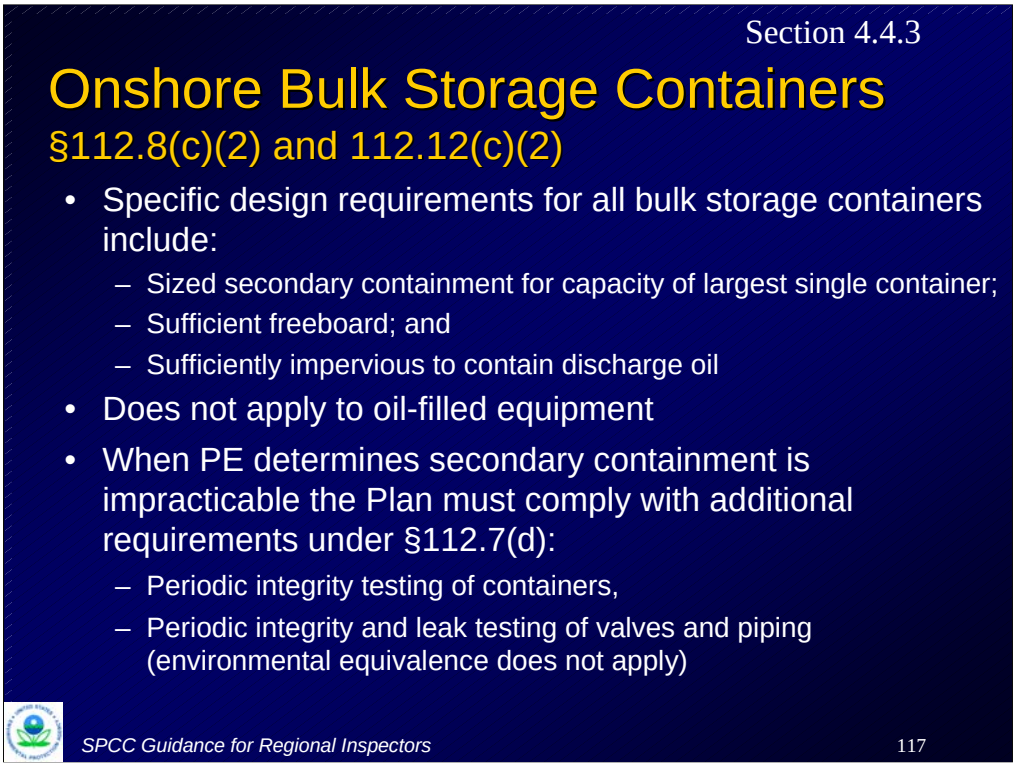
Relevant guidance document text:

In this figure, the tank truck loading rack and unloading area are co-located. In this situation, the more stringent provision applies; the area is subject to the sized secondary containment requirements of §112.7(h)(1).



Relevant guidance document text:

EPA acknowledges that in certain situations, the sized secondary containment requirements of §112.7(h)(1) at loading/unloading racks may be impracticable due to geographic limitations, fire codes, etc. In these cases, the owner or operator may determine that secondary containment is impracticable as provided in §112.7(d). Under that provision, the SPCC Plan must clearly explain the reasons why secondary containment is not practicable, and comply with the additional regulatory requirements.



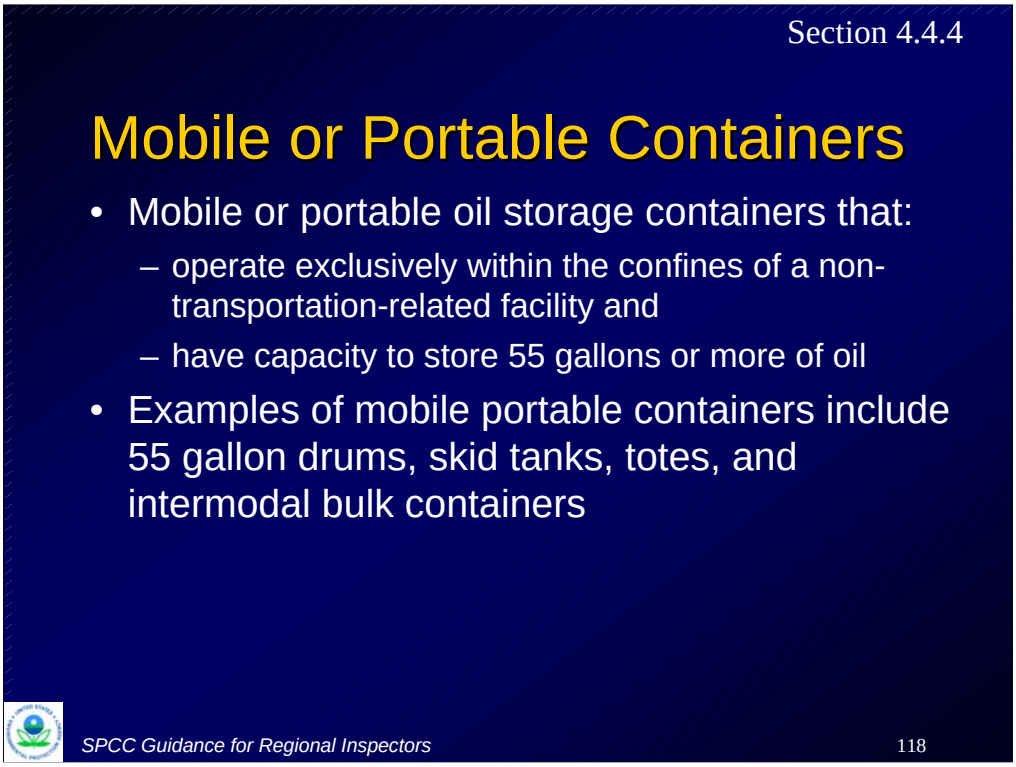
Relevant guidance document text:

Under the SPCC rule, a bulk storage container is any container used to store oil with a capacity of 55 gallons or more (§§112.1(d)(5) and 112.2). Bulk storage containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled pieces of electrical, operating, or manufacturing equipment are not considered bulk storage containers.

Bulk storage containers at a regulated facility must comply with the specific secondary containment requirements of §112.8(c)(2). For bulk storage containers, secondary containment must hold the entire capacity of the largest single container and sufficient freeboard to contain precipitation. Secondary containment is required for all facilities with bulk storage containers, large or small, manned or unmanned, and for facilities with bulk storage containers that also have oil-filled equipment (specific secondary containment requirements do not apply to oil-filled equipment).

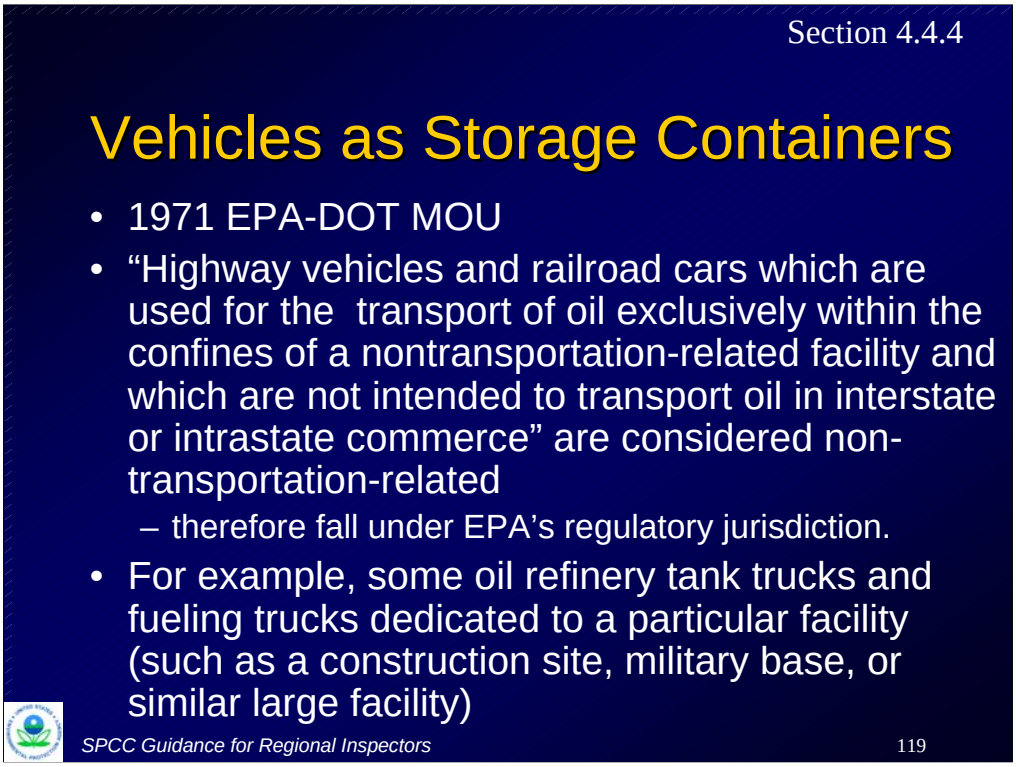
Section 112.8(c)(2) considers the use of dikes, containment curbs, and pits as secondary containment methods, or an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond. Dikes contain oil in the immediate vicinity of the storage container. Remote impoundment drains discharge to an area located away from the container. Examples of design considerations and requirements for these types of containment are set forth in the National Fire Protection Association (NFPA) 30 Flammable and Combustible Liquids Code.

The owner or operator may determine that secondary containment is impracticable under §112.7(d), when he/she, or the PE certifying the Plan, determines that it is not practicable to design a secondary containment system that can hold the capacity of the largest single container plus sufficient freeboard. The EPA inspector should verify that the SPCC Plan clearly explains why secondary containment is not practicable, and that the facility is complying with the additional regulatory requirements, such as conducting both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping (§112.7(d)).



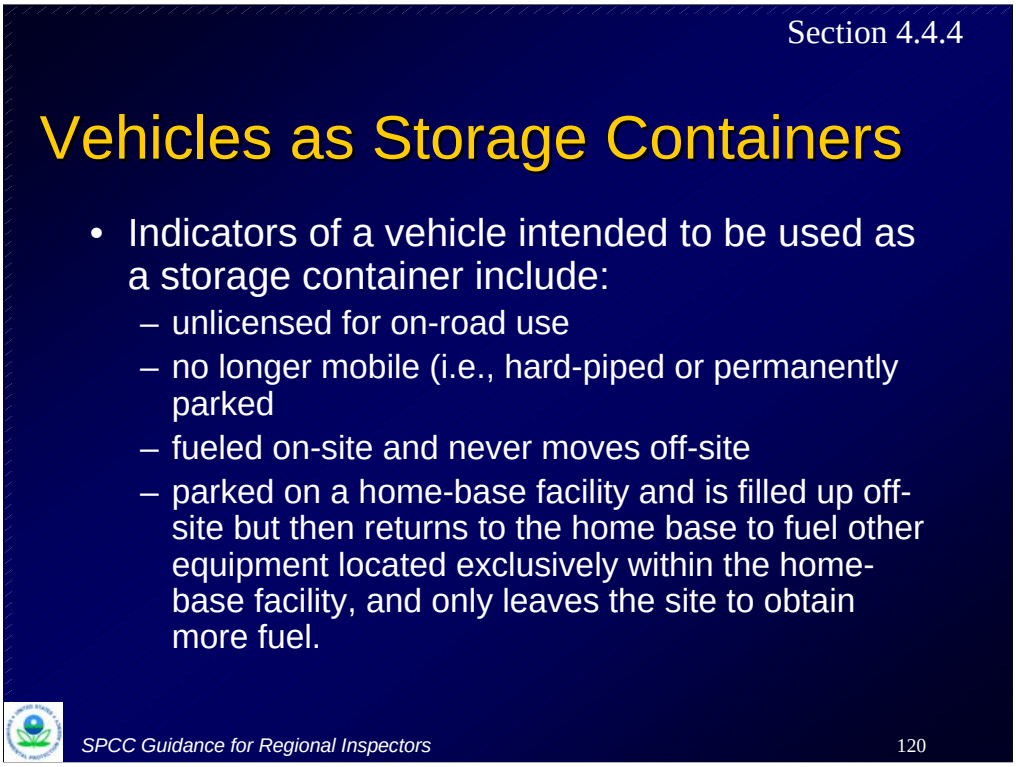
Relevant guidance document text:

Mobile or portable oil storage containers operating exclusively within the confines of a non-transportation-related facility with a capacity to store 55 gallons or more of oil are .regulated under the SPCC rule and must comply with the secondary containment requirements of §112.8(c)(11) (or §112.12(c)(11) in the case of a facility that stores or handles the capacity of the largest single animal fats or vegetable oils).



Relevant guidance document text:

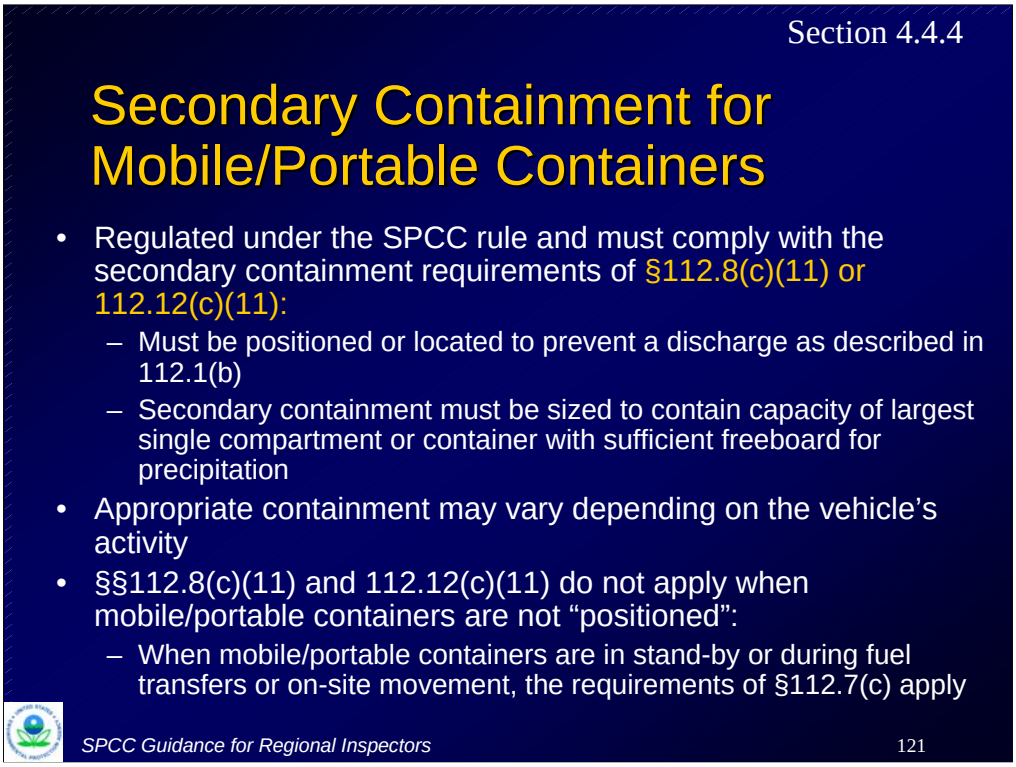
The 1971 Memorandum of Understanding between EPA and the Department of Transportation (DOT) states that "highway vehicles and railroad cars which are used for the transport of oil exclusively within the confines of a non-transportation-related facility and which are not intended to transport oil in interstate or intrastate commerce" are considered non-transportation-related, and therefore fall under EPA's regulatory jurisdiction. For example, some oil refinery tank trucks and fueling trucks dedicated to a particular facility (such as a construction site, military base, or similar large facility) fall under this category. Other examples of mobile portable containers include, but are not limited to, 55 gallon drums, skid tanks, totes, and intermodal bulk containers



Relevant guidance document text:

Vehicles used to store oil, operating as on-site fueling vehicles at locations such as construction sites, military, or civilian remote operations support sites, or rail sidings are generally considered non-transportation-related. Indicators describing when a vehicle is intended to be used as a storage tank (and therefore considered non-transportation-related) include, but are not limited to:

- The vehicle is not licensed for on-road use;
- The vehicle is no longer mobile (i.e., hard-piped or permanently parked);
- The vehicle is fueled on-site and never moves off-site; and
- The vehicle is parked on a home-base facility and is filled up off-site but then returns to the home base to fuel other equipment located exclusively within the home-base facility, and only leaves the site to obtain more fuel.

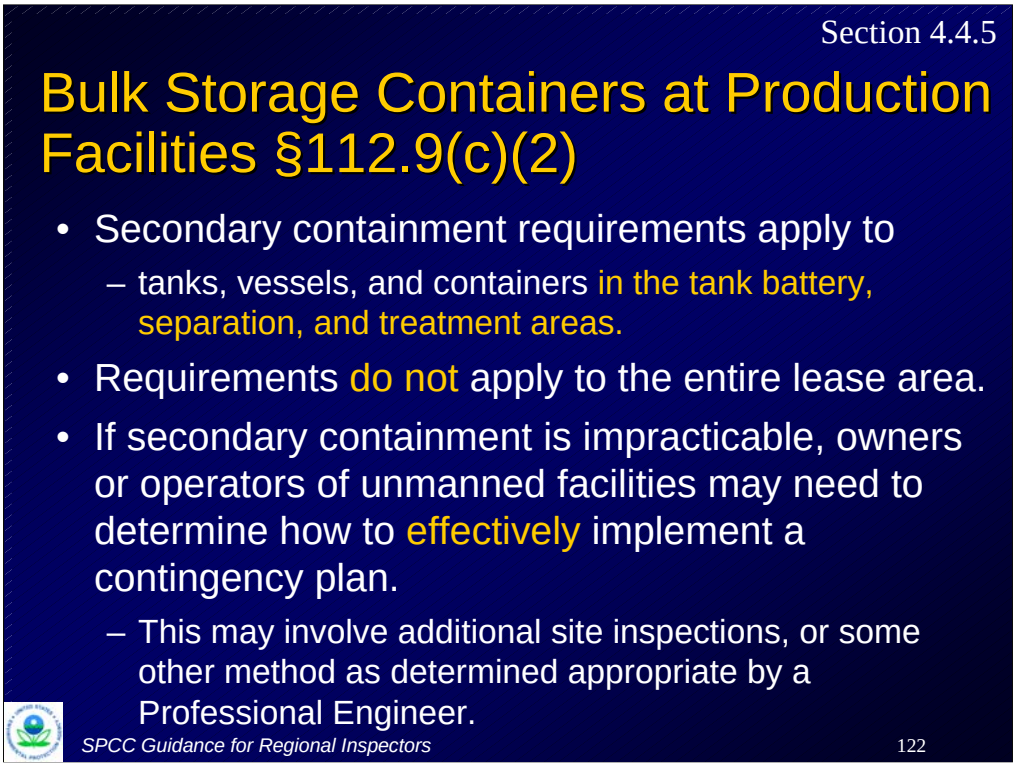


Relevant guidance document text:

According to §§112.8(c)(11) and 112.12(c)(11), mobile or portable containers must be positioned or located to prevent a discharge to navigable waters as described in §112.1(b). The provision requires that the secondary containment be sized to hold the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

The appropriate containment methods for mobile containers may vary depending on the activity in which the container is engaged at a given time. Thus, secondary containment requirements may be met differently depending upon the type of operation being performed.

Mobile containers, such as drums, skids, and totes, must also comply with the requirements of §112.8(c)(11) or §112.12(c)(11) according to good engineering practice. For these types of containers, the EPA inspector should verify that the secondary containment methods are appropriate. For example, an oil-filled drum positioned for use at a construction site must be equipped with secondary containment sized in accordance with §112.8(c)(11). The facility owner or operator may determine that it is impracticable to provide sized secondary containment in accordance with §112.8(c)(11), when the container is in stationary or unattended mode, or the general containment of §112.7(c), pursuant to §112.7(d). The SPCC Plan must properly explain why secondary containment is impracticable, and document the implementation of the additional regulatory requirements of §112.7(d).

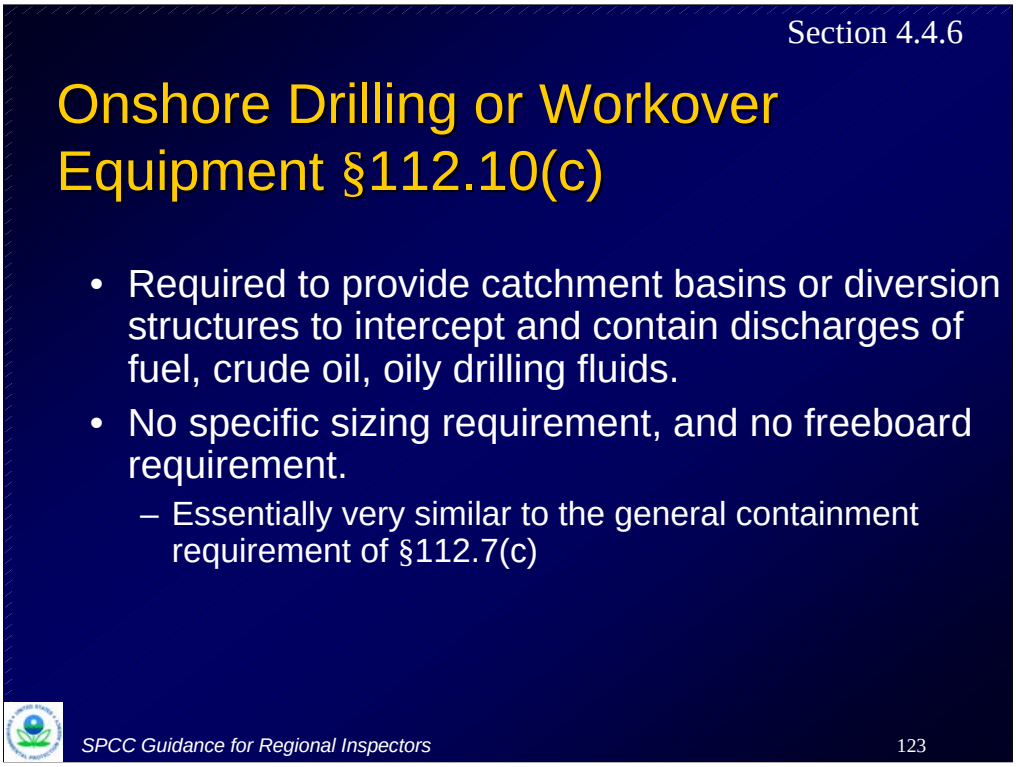


Relevant guidance document text:

The secondary containment requirements of §112.9(c)(2) apply to all tank battery, separation, and treating facility installations at a regulated production facility. This specific secondary containment requirement does not apply to the entire lease area, but only to tanks, vessels, and containers in the tank battery, separation, and treatment areas.

Section 112.9(c)(2) is a specific secondary containment requirement; the containment structure or measure must be able to contain the entire capacity of the largest single container and sufficient freeboard to contain precipitation. (Refer to Section 4.2.4 of this chapter for more information on calculating sufficient freeboard.) Additionally, pursuant to §112.9(c)(2), if facility drainage is used as a method of secondary containment for bulk storage containers, drainage from undiked areas must be safely confined in a catchment basin or holding ponds. Secondary containment should be sufficiently impervious to contain oil; refer to Section 4.2.8 of this chapter for more information. The undiked drainage requirements of §112.9(c)(2) do not apply to other areas of the facility or lease, such as truck transfer or wellhead or flowline areas because they are not bulk storage containers. According to the 2002 rule preamble, “the [secondary containment] requirement applies to oil leases of any size. Secondary containment is not required for the entire leased area, merely for the contents of the largest single container in the tank battery, separation, and treating facility installation, with sufficient freeboard to contain precipitation.” (67 FR 47128).

The facility owner/operator may determine that it is impracticable to provide sized secondary containment in accordance with §112.9(c)(2). Pursuant to §112.7(d), the SPCC Plan must clearly explain why secondary containment is not practicable, and document how the additional regulatory requirements of §112.7(d) are implemented. Owners or operators of unmanned facilities may need to determine how to effectively implement a contingency plan. This may involve additional site inspections, or some other method as determined appropriate by a Professional Engineer.



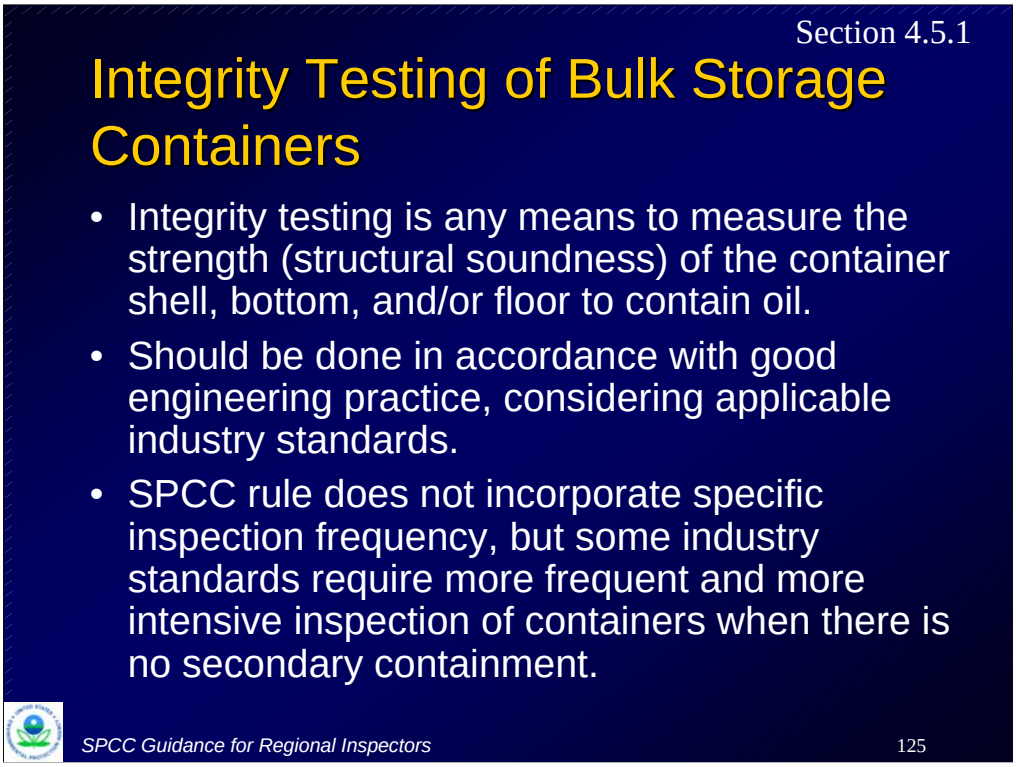
Relevant guidance document text:

Section 112.10(c) applies to onshore oil drilling and workover facilities. Areas with drilling and workover equipment are required to provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids. This provision contains no specific sizing requirement, and no freeboard requirement; it is essentially very similar to the general containment requirement of §112.7(c).

The facility owner/operator may determine that it is impracticable to provide secondary containment in accordance with §112.10(c). Pursuant to §112.7(d), the SPCC Plan must clearly explain why secondary containment is not practicable, and document how the additional regulatory requirements of §112.7(d) are implemented.

Relevant guidance document text:

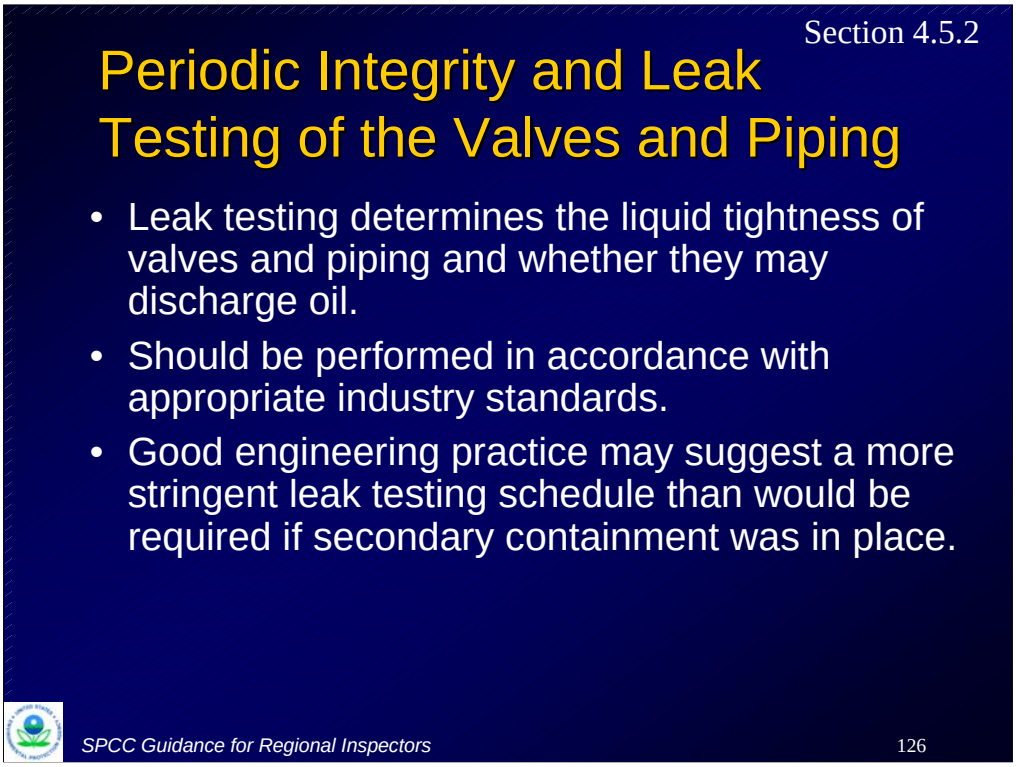
Pursuant to §112.7(d), if secondary containment is impracticable for any area where secondary containment requirements apply, facility owners or operators must clearly explain in the SPCC Plan why such secondary containment is impracticable and implement additional requirements. This section describes these additional requirements.



Relevant guidance document text:

When a facility owner or operator shows that secondary containment around a bulk storage container is impracticable, he or she must conduct periodic integrity testing of the container (§112.7(d)). Integrity testing is any means to measure the strength (structural soundness) of the container shell, bottom, and/or floor to contain oil. Integrity testing should be done in accordance with good engineering practice, considering applicable industry standards. For a thorough discussion of integrity testing, see Chapter 7 of this document. Chapter 7 describes the scope and frequency of inspections and tests, considering industry standards and the characteristics of the container. When there is no secondary containment around a container, however, good engineering practice should indicate a more stringent integrity testing schedule than would be required for a container if secondary containment were in place. Although the 2002 revised SPCC rule does not incorporate specific inspection frequency, certain industry standards require more frequent and/or more intensive inspection of containers when they do not have secondary containment.

The EPA inspector should verify that the Plan describes the integrity testing of bulk storage containers, in particular for those containers for which secondary containment is impracticable. The inspector should also review testing records to ensure that the inspection program is implemented as described.



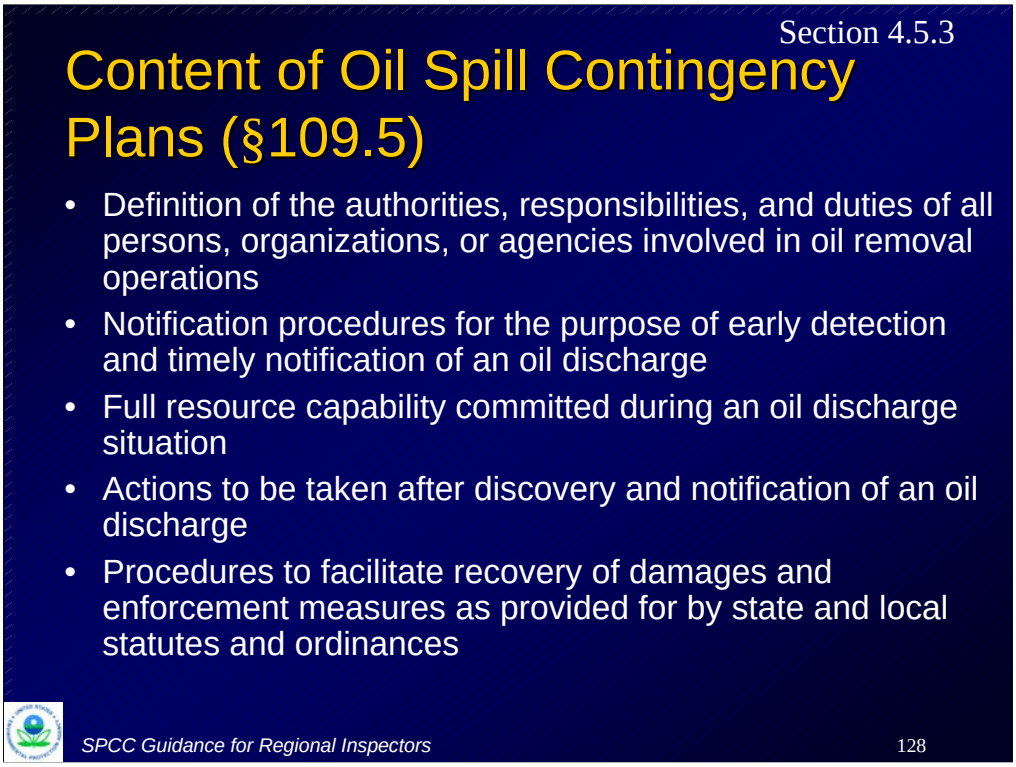
Relevant guidance document text:

When the facility owner or operator determines that secondary containment for bulk storage containers is impracticable, he/she must also perform periodic integrity and leak testing of valves and piping associated with the containers for which secondary containment is impracticable (§112.7(d)). Leak testing determines the liquid tightness of valves and piping and whether they may discharge oil. Leak testing should be performed in accordance with appropriate industry standards. Chapter 7 provides an overview of integrity and leak testing of valves and piping. As for integrity testing, good engineering practice may suggest a more stringent leak testing schedule than would be required if secondary containment were in place. The PE certifies that the extent of this testing is in accordance with good engineering practice, including consideration of applicable industry standards (§112.3(d)).

The EPA inspector should verify that the Plan describes the integrity and leak testing of valves and piping associated with containers for which secondary containment is impracticable. The inspector should also review testing records to ensure that the testing program is implemented as described.

Relevant guidance document text:

Unless he or she has submitted a Facility Response Plan under §112.20, an owner or operator who claims that secondary containment is impracticable must include with the SPCC Plan an oil spill contingency plan following the provisions of 40 CFR part 109 and a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil that may be harmful (§112.7(d)).

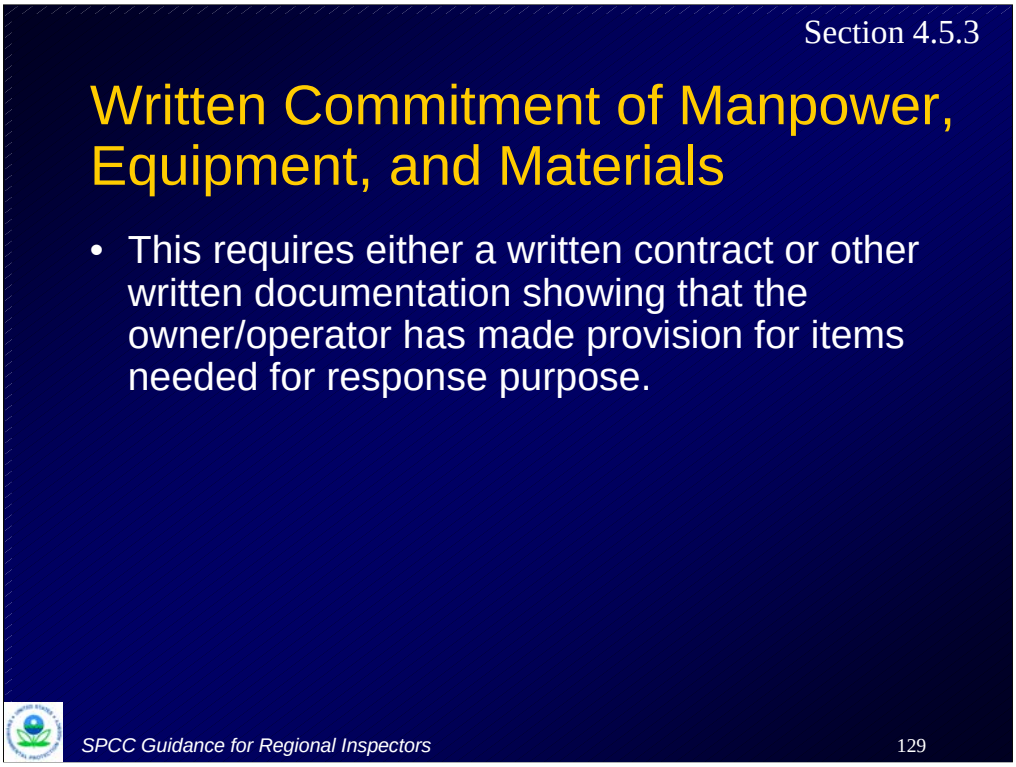


Relevant guidance document text:

The requirements for the content of contingency plans are given in 40 CFR part 109, Criteria for State, Local, and Regional Oil Removal Contingency Plans. The elements of the contingency plan are outlined in §109.5, and include:

- Definition of the authorities, responsibilities, and duties of all persons, organizations, or agencies that are to be involved or could be involved in planning or directing oil removal operations.
- Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge.
- Provisions to ensure that full resource capability is known and can be committed during an oil discharge situation.
- Provisions for well-defined and specific actions to be taken after discovery and notification of an oil discharge.
- Specific and well-defined procedures to facilitate recovery of damages and enforcement measures as provided for by state and local statutes and ordinances.

Please refer to the model contingency plan found in Appendix F of this document for an example contingency plan prepared in compliance with the SPCC rule and 40 CFR part 109.



Relevant guidance document text:

As described in 67 FR 47105, a ‘‘written commitment’’ of manpower, equipment, and materials means either a written contract or other written documentation showing that the owner/operator has made provision for items needed for response purposes.

Contents of Written Commitment

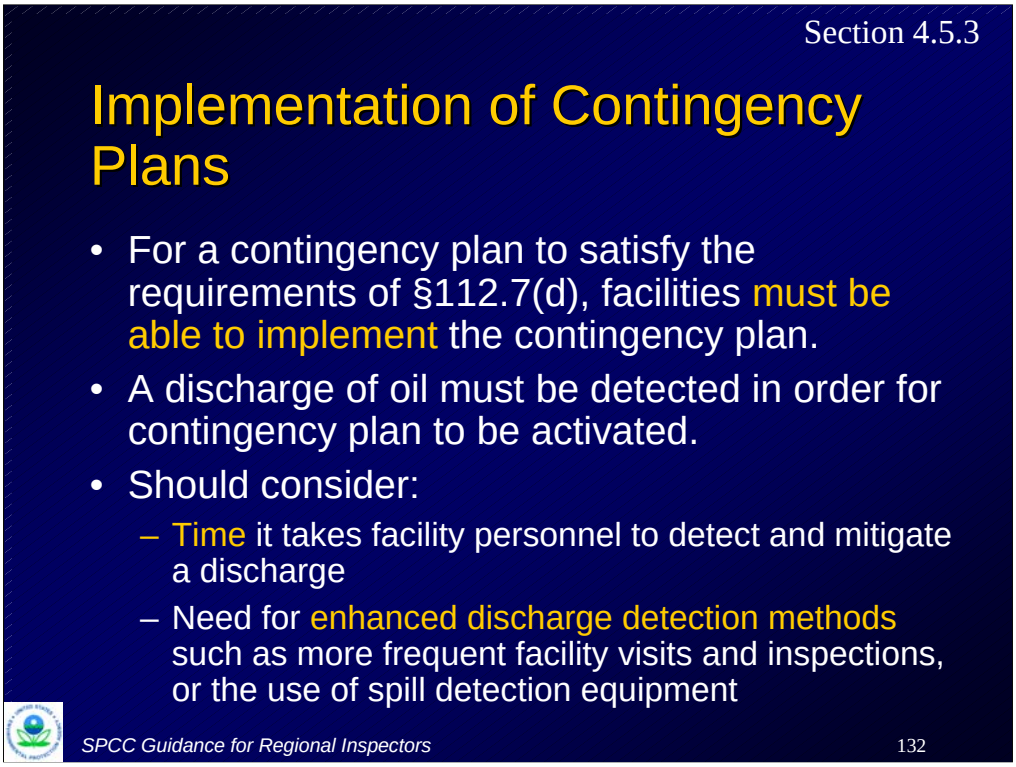
As described in 67 FR 47105:

- Identification and inventory of applicable equipment, materials, and supplies that are available locally and regionally
- An estimate of the equipment, materials, and supplies that would be required to remove the maximum oil discharge to be anticipated
- Development of agreements and arrangements in advance of an oil discharge
- Specification of an oil discharge response operating team consisting of trained, prepared, and available operating personnel
- Pre-designation of a properly qualified oil discharge response coordinator

continued

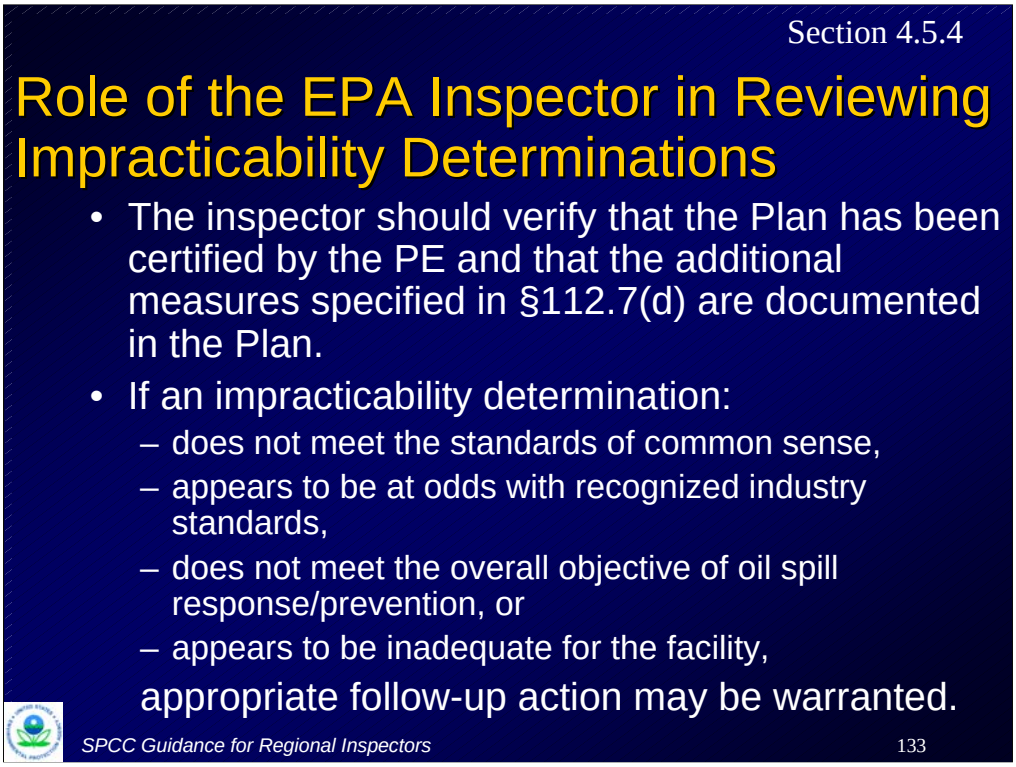
Contents of Written Commitment
(continued)

- Pre-planned location for an oil discharge response operations center
- Reliable communications system for directing the coordinated overall response actions
- Provisions for varying degrees of response effort depending on the severity of the oil discharge
- Order of priority in which the various water uses are to be protected (where more than one water use may be adversely affected)



Relevant guidance document text:

For a contingency plan to satisfy the requirements of §112.7(d), facilities must be able to implement the contingency plan. Activation of the contingency plan is contingent upon the discharge of oil being detected. As part of evaluating the adequacy of the contingency plan developed to satisfy requirements of §112.7(d), the EPA inspector should consider the time it takes facility personnel to detect and mitigate a discharge to navigable waters and adjoining shorelines. For example, at an unmanned facility, effective implementation of the contingency plan may involve enhanced discharge detection methods such as more frequent facility visits and inspections, or the use of spill detection equipment.



Relevant guidance document text:

Like other technical aspects of the SPCC Plan, determinations of impracticability must be reviewed by the PE certifying the Plan in accordance with §112.3(d) to ensure that they are consistent with good engineering practice. The inspector should verify that the Plan has been certified by the PE and that the additional measures specified in §112.7(d) are documented in the Plan, as explained below.

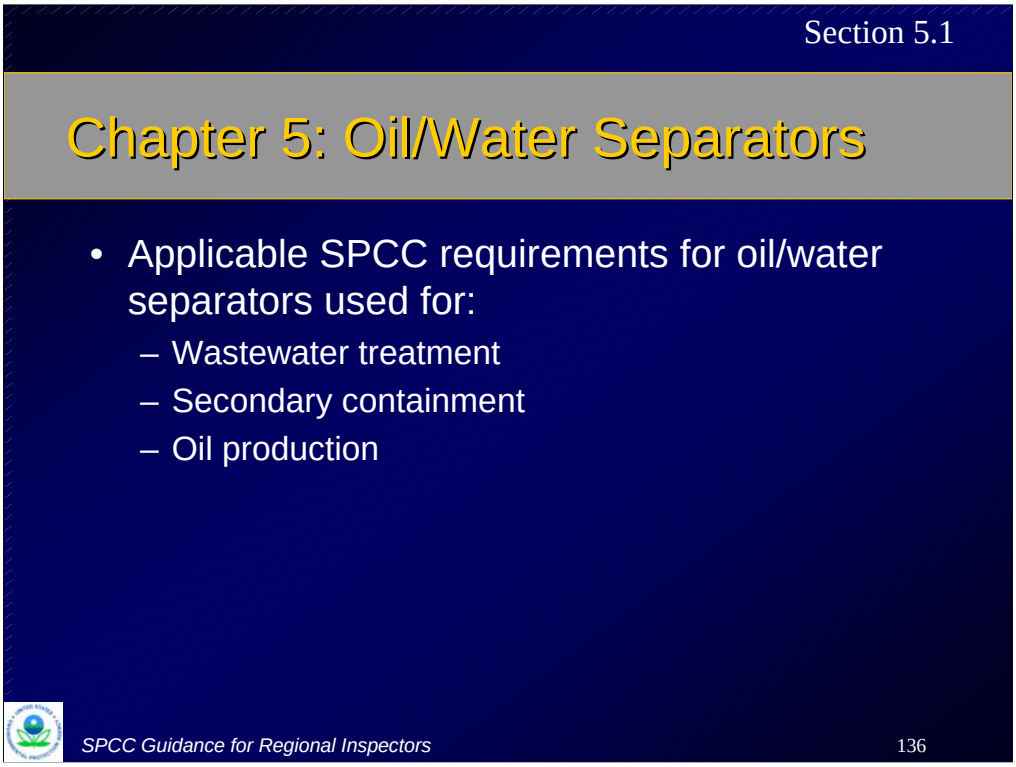
By certifying a Plan, a PE attests that the Plan has been prepared in accordance with good engineering practice, that it meets the requirements of 40 CFR part 112, and that it is adequate for the facility. Thus, if impracticability determinations and the corresponding alternative measures and contingency plan have been reviewed by the certifying PE and are properly documented, they should generally be considered acceptable by regional EPA inspectors. However, if an impracticability determination and/or the additional required measures do not meet the standards of common sense, appear to be at odds with recognized industry standards, do not meet the overall objective of oil spill response/prevention, or appear to be inadequate for the facility, appropriate follow-up action may be warranted. In this case, the EPA inspector should clearly document the concerns (including photographs and drawings of the facility configuration, flow direction, and proximity to navigable waters) to assist RA review and follow-up. This may include requesting additional information from the facility owner or operator to justify the impracticability determination. An owner/operator making a determination of impracticability should have considered all appropriate options for secondary containment, and the documentation presented in support of the impracticability determination should include a discussion of the reasons why the various reasonable options are impracticable.

Role of the EPA Inspector in Reviewing Impracticability Determinations (continued)

- EPA inspector should verify the additional measures required by §112.7(d):
  - The facility's contingency plan can be implemented as written
  - The equipment for response is available
  - The commitment of manpower, equipment, and materials is documented
  - The contingency plan describes the location of drainage systems, containment deployment locations, and oil collection areas
  - There are procedures for early detection of oil discharges
  - There is a defined set of response actions

Example Impracticability Determinations

- See Section 4.5.4 for examples of adequate and inadequate impracticability determinations.
  - Good Example: Bulk Storage Containers
  - Bad Example: Bulk Storage Containers



Relevant guidance document text:

The wastewater treatment exemption in §112.1(d)(6) excludes from SPCC requirements facilities or parts of facilities that are used exclusively for wastewater treatment, as long as they are not used to meet other requirements of 40 CFR part 112. This chapter clarifies the applicability of this exemption to oil/water separators (including equipment, vessels, and containers that are not specifically called “oil/water separators” but perform oil/water separation, such as water clarifiers at wastewater treatment plants).

SPCC Requirements for Oil/Water Separator Uses

Wastewater Treatment Use	Secondary Containment Use	Oil Production Use
Separators are exempt from all SPCC requirements in accordance with §112.1(d)(6) and do not count toward facility storage capacity.	Separators used as part of a secondary containment system and that are not intended for oil storage or use do not themselves require secondary containment, and do not count toward facility storage capacity.	Separators that are bulk storage containers, subject to the provisions of §§112.9(c) or 112.11(b) and (d), are not exempt and count toward the facility storage capacity.

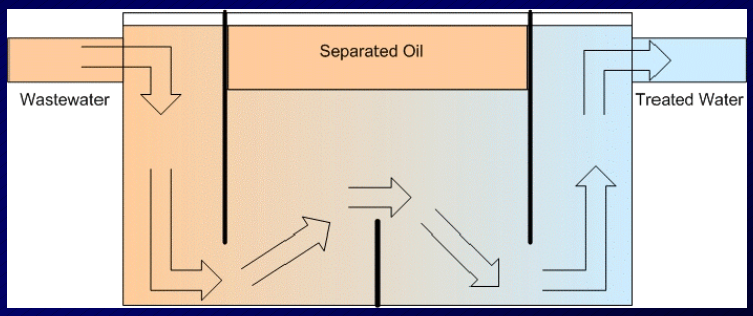
Relevant guidance document text:

Oil/water separators are flow-through equipment in which wastewater enters the separator and treated water exits the separator on a continual basis. To be effective, the oil/water separator is sized appropriately in order for the unit to separate and contain the intended oil capacity, in addition to the flow-through wastewater quantity. Also, the design flow rate of the oil/water separator is carefully considered when specifying a wastewater treatment system, as a flow rate above the maximum rate of the separator will cause the discharge of accumulated oil and/or untreated wastewater. The specifications from oil/water separator manufacturers typically outline these and other design factors to consider, along with operation and maintenance requirements, to ensure that the oil/water separator is correctly constructed and operated for its intended use.

Oil/water separators used to pre-treat wastewater are usually of two kinds: standard gravity separators or enhanced gravity separators.

Standard Gravity Separators

- Structures that provide sufficient time to allow oil droplets to rise to the surface
- Oil forms a separate layer and is removed by skimmers, pumps, or other methods



** DESIGNS MAY VARY*

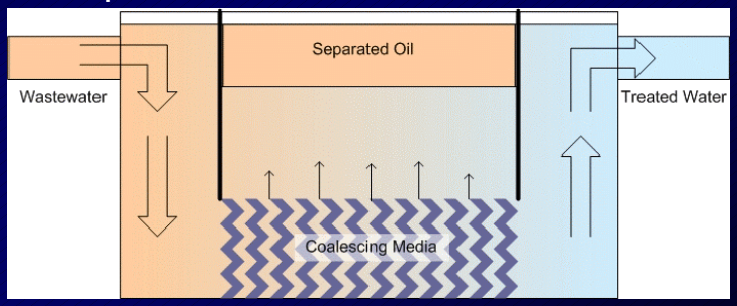
Relevant guidance document text:

Standard gravity separators, as illustrated are liquid containment structures that provide sufficient hydraulic retention time to allow oil droplets to rise to the surface. The oil forms a separate layer that can then be removed by skimmers, pumps, or other methods. The wastewater outlet is located below the oil level so that water leaving the separator is free of the oil that accumulates at the top of the unit. The inlet is often fitted with diffusion baffles to reduce turbulent flow that might prevent effective separation of the oil and might re-suspend settled pollutants.

Section 5.3.1

Enhanced Gravity Separators

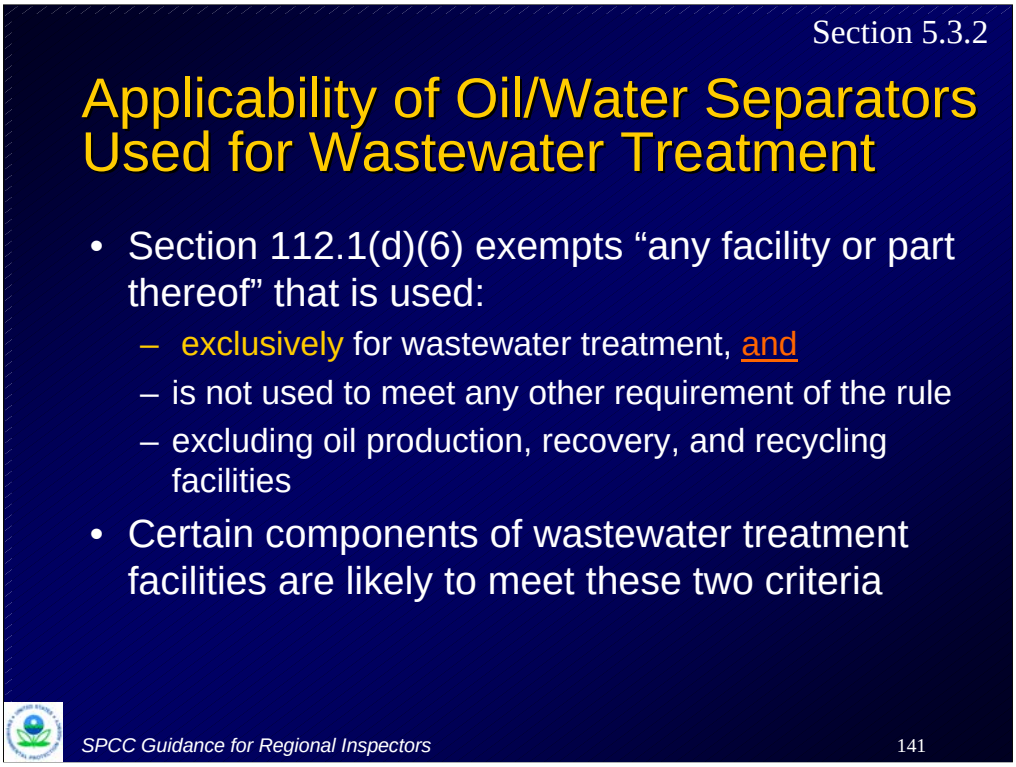
- Allow the separation of smaller oil droplets within confined spaces
- Use coalescing media and small diameter cartridges to enhance separation of smaller oil droplets



** DESIGNS MAY VARY*

Relevant guidance document text:

Enhanced gravity separators allow the separation of smaller oil droplets within confined spaces. These separators use a variety of coalescing media and small diameter cartridges that enhance laminar flow and separation of smaller oil droplets that accumulate on the separator surface for removal.

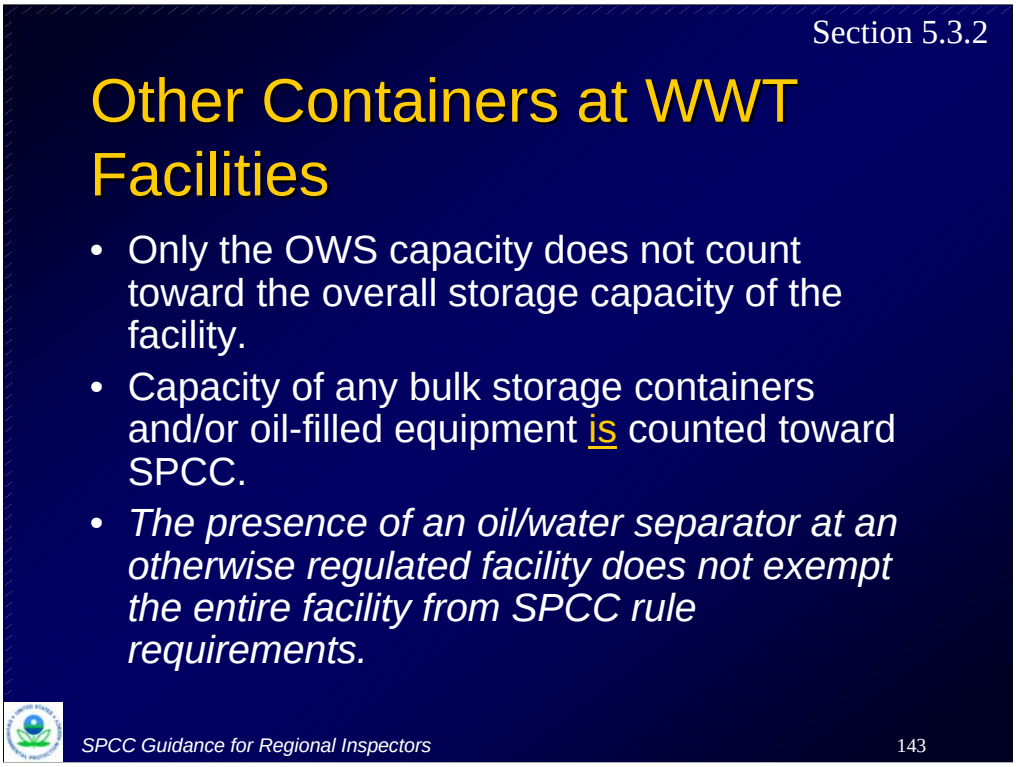


Relevant guidance document text:

Section 112.1(d)(6) exempts “any facility or part thereof” that is used *exclusively* for wastewater treatment *and* is not used to meet any other requirement of the rule (excluding oil production, recovery, and recycling facilities). Certain components of wastewater treatment facilities, such as treatment systems at publicly owned treatment works (POTWs) and industrial wastewater treatment facilities treating oily wastewater, likely meet the two criteria for this exemption.

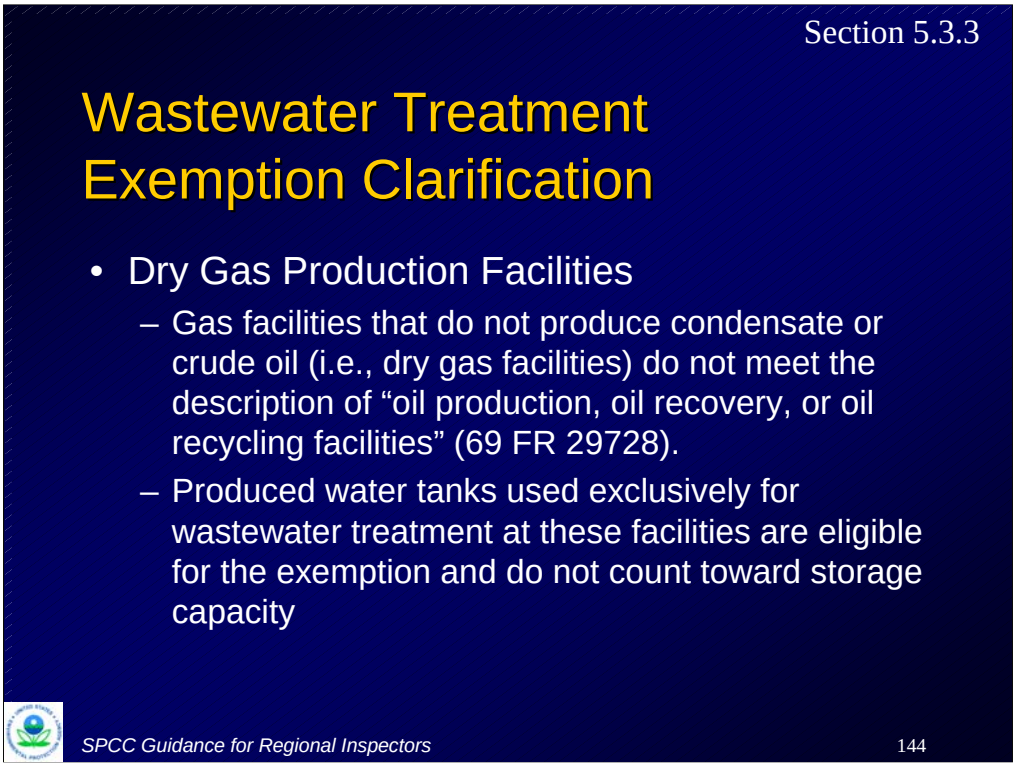
Examples

- OWS that may be eligible for the exemption of §112.1(d)(6) include:
  - Oil/water separators at a wastewater treatment facility
  - Oil/water separators at an active groundwater remediation site
  - Grease traps that intercept and congeal oil and grease from liquid waste
  - Oil/water separators in landfill leachate collection systems



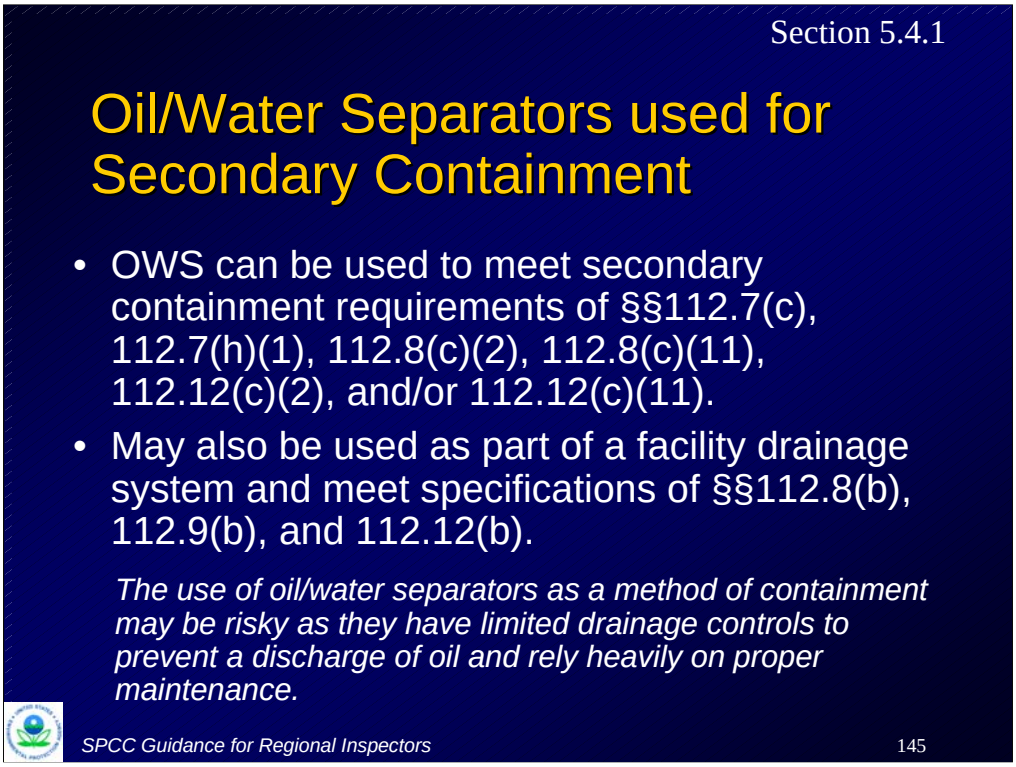
Relevant guidance document text:

POTWs and other wastewater treatment facilities may have bulk storage containers and oil-filled equipment, as well as exempt oil/water separators. The capacity of the bulk storage containers and oil-filled equipment is counted to determine whether the facility is subject to the requirements of the SPCC rule. Only the oil/water separator capacity does not count toward the overall storage capacity of the facility. Thus, the presence of an oil/water separator at an otherwise regulated facility does not exempt the entire facility from the SPCC rule requirements. At wastewater treatment facilities, storage capacity to be counted includes bulk storage containers, hydraulic equipment associated with the treatment process, containers used to store oil that feed an emergency generator associated with wastewater treatment, and slop tanks or other containers used to store oil resulting from treatment. Any separate container used to store oil recovered by the separation process or any other equipment or containers at a regulated facility that do not qualify for the wastewater treatment exemption are required to meet all applicable SPCC requirements (67 FR 47069)



Relevant guidance document text:

As EPA stated in a *Federal Register* notice (69 FR 29728), produced water tanks at dry gas facilities are eligible for the wastewater treatment exemption. Gas facilities that do not produce condensate or crude oil (i.e., dry gas facilities) do not meet the description of “oil production, oil recovery, or oil recycling facilities.” Therefore, produced water tanks used exclusively for wastewater treatment at such facilities are eligible for the exemption. Tanks that are eligible for the exemption do not count toward storage capacity.

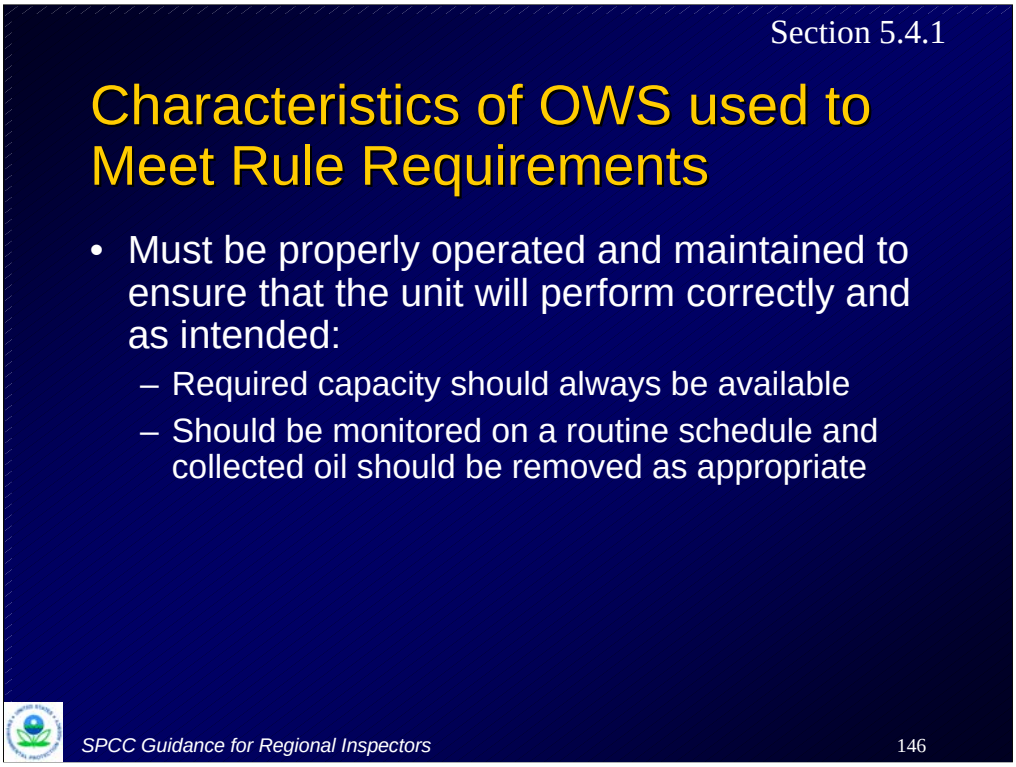


Relevant guidance document text:

Oil/water separators can be used to meet the SPCC requirements for secondary containment in §§112.7(c), 112.7(h)(1), 112.8(c)(2), 112.8(c)(11), 112.12(c)(2), and/or 112.12(c)(11). Additionally, §§112.8(b), 112.9(b), and 112.12(b) set forth design specifications for drainage associated with secondary containment provisions at the facility. Properly designed, maintained, and operated oil/water separators may be used as part of a facility drainage system to meet the secondary containment requirements of the rule.

When designing oil/water separators to be used as secondary containment (see Chapter 4 for a discussion of secondary containment requirements), good engineering practice would normally indicate that a Professional Engineer (PE) would consider:

- The drainage area that flows to the separator;
- The corresponding anticipated flow rate of the drainage system to the separator; and
- The appropriate capacity of the oil/water separator for oil and for wastewater.



Relevant guidance document text:

Many oil/water separators used for secondary containment are installed in areas where they may receive considerable flow from precipitation. If the flow rate exceeds the maximum design rate of the separator, the separator may discharge accumulated oil and/or untreated wastewater; therefore, it may be an inappropriate choice for secondary containment and may result in a discharge to navigable waters and adjoining shorelines. The specifications from the oil/water separator manufacturer outline these and other design factors as important items to consider when specifying the use of a given oil/water separator for a given application. Additionally, the manufacturer specifies the maintenance requirements for these separators that would ensure proper operation of these devices.

When oil/water separators are used to meet SPCC requirements they must be properly operated and maintained to ensure that the unit will perform correctly and as intended under the potential discharge scenarios it is aimed to address (e.g., §§112.7(c), 112.8(c)(2), and 112.12(c)(2)). The required oil/water separator capacity should always be available (i.e., oil should not continually accumulate in the separator over a period of time such that the required storage capacity would not be available if an oil release were to occur within the drainage area). The use of oil/water separators as a method of containment may be risky as they have limited drainage controls to prevent a discharge of oil and rely heavily on proper maintenance.

Requirements for OWS Used for Secondary Containment

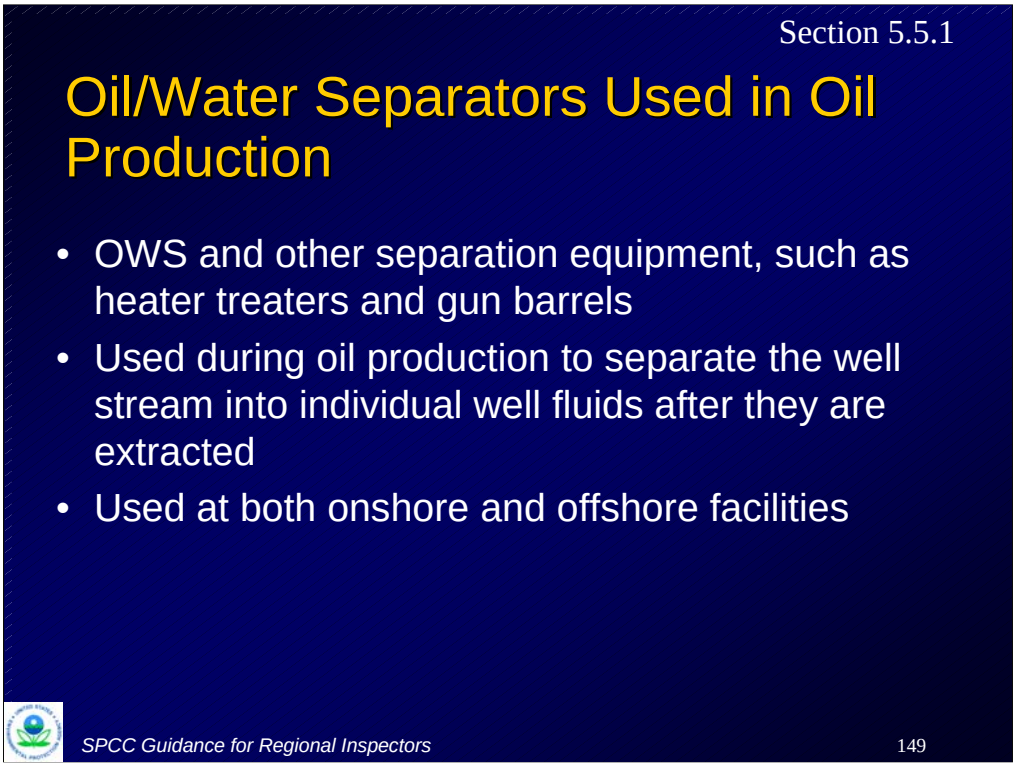
If OWS is used to satisfy…

- §112.7(c): OWS must be constructed to contain oil and prevent an escape of oil from the system prior to cleanup.
- §112.7(h)(1): OWS may be used as part of a quick drainage system. Must hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.
- §§112.8(b), 112.9(b), or 112.12(b): OWS may serve as an environmentally equivalent measure to the ponds, lagoons, or catchment basins. OWS should be designed to handle the flowrate and volume of oil and water expected to be generated by facility operations.

continued

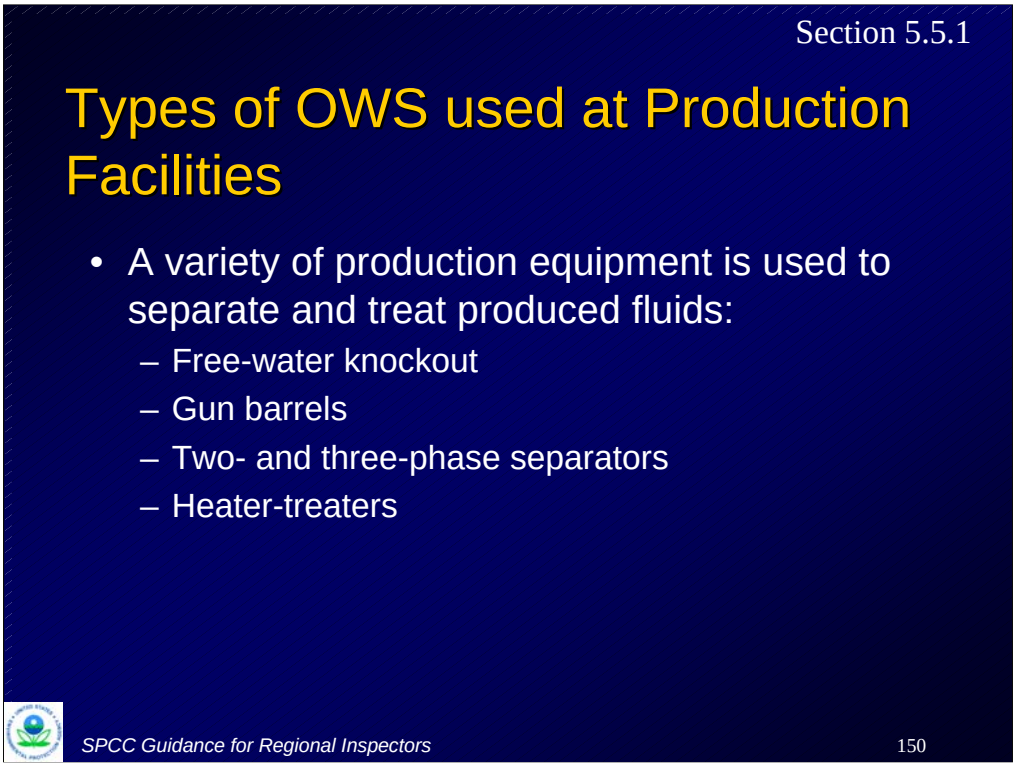
Requirements for OWS Used for Secondary Containment (continued)

- §§112.8(c)(2), 112.8(c)(11), 112.12(c)(2), or 112.12(c)(11): OWS must be appropriately sized and capable of handling both the oil and precipitation that comes into the separator from the general drainage area, and from any accidental discharge from the largest bulk storage container located within the drainage area.



Relevant guidance document text:

Oil production oil/water separators are used at both onshore and offshore facilities. Separators and other separation equipment, such as heater-treaters and gun barrels, are used during oil production to separate the well stream into individual well fluids after they are extracted from the production well. Different processes and equipment may be used to separate the mixture into oil/emulsion, water, and gas fractions. All such equipment is considered a bulk storage container needing specific secondary containment. For purposes of this guidance, this chapter focuses on those pieces of equipment that separate water from oil and the equipment through which these fluids flow.

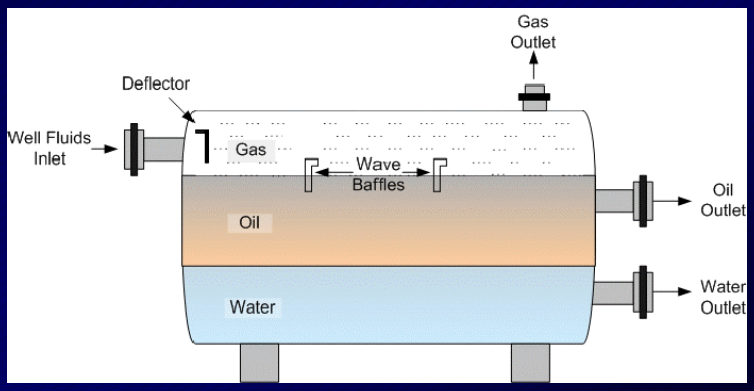


Relevant guidance document text:

There is quite a variety of production equipment used to separate and treat produced fluids. Some are operated under low pressure conditions, while others are operated at high pressure. A process called “free-water knockout,” illustrated in Figure 5-4, is generally used to separate large volumes of water from oil and gas generated from the well. Gun barrels, also called wash tanks, are generally found in older or marginal fields and are used to provide quiet retention time for the water to settle out of the produced well fluids. A two-phase separator separates the well fluids into a liquid (oil, emulsion,3 or water) and a gas. The liquid exits the bottom of the separator and the gas exits the top. Three-phase separators separate well fluids into oil/emulsion, gas, and water. Gas exits from the top, oil/emulsion from the middle, and water from the bottom of this type of vertical three-phase separator. Three-phase separators are generally used when there is free water in the well fluids. If there is little or no free water, a two-phase separator might be used instead. Another type of equipment used to separate produced fluids, especially fluid emulsions, is termed a “heater-treater.” Heater-treaters use heat, electricity, and/or chemicals to reduce the emulsion viscosity and to separate out free oil, water, and gas in oil production.

Low-pressure Free Water Knockout

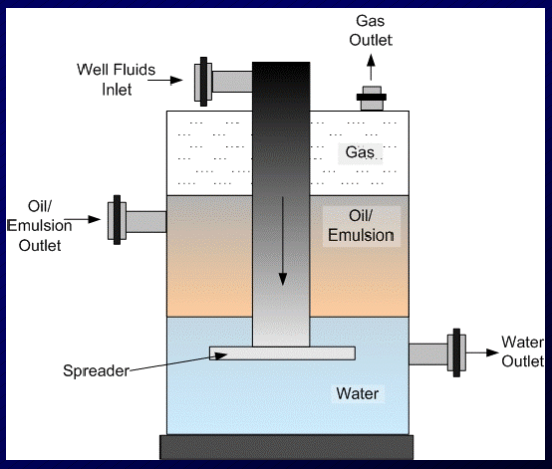
- Used to separate large volumes of water from oil and gas generated from the well.



** DESIGNS MAY VARY*

Gun Barrels

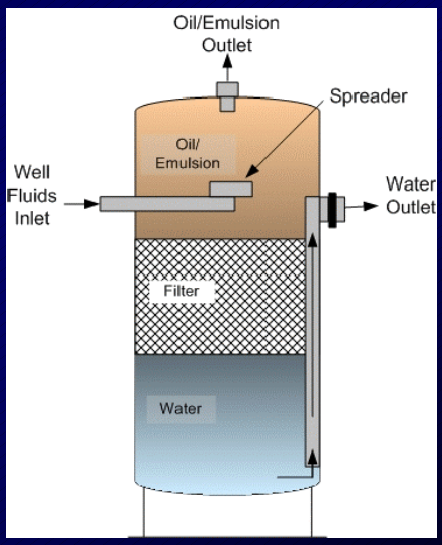
- Generally found in older or marginal fields.
- Used to provide time for the water to settle out of the produced well fluids.



** DESIGNS MAY VARY*

Two-phase Separator

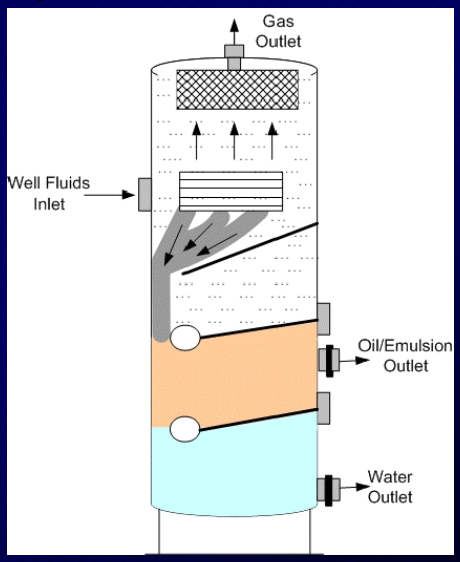
- Separates the well fluids into a liquid (oil, emulsion, or water) and a gas.



** DESIGNS MAY VARY*

Three-phase Separator

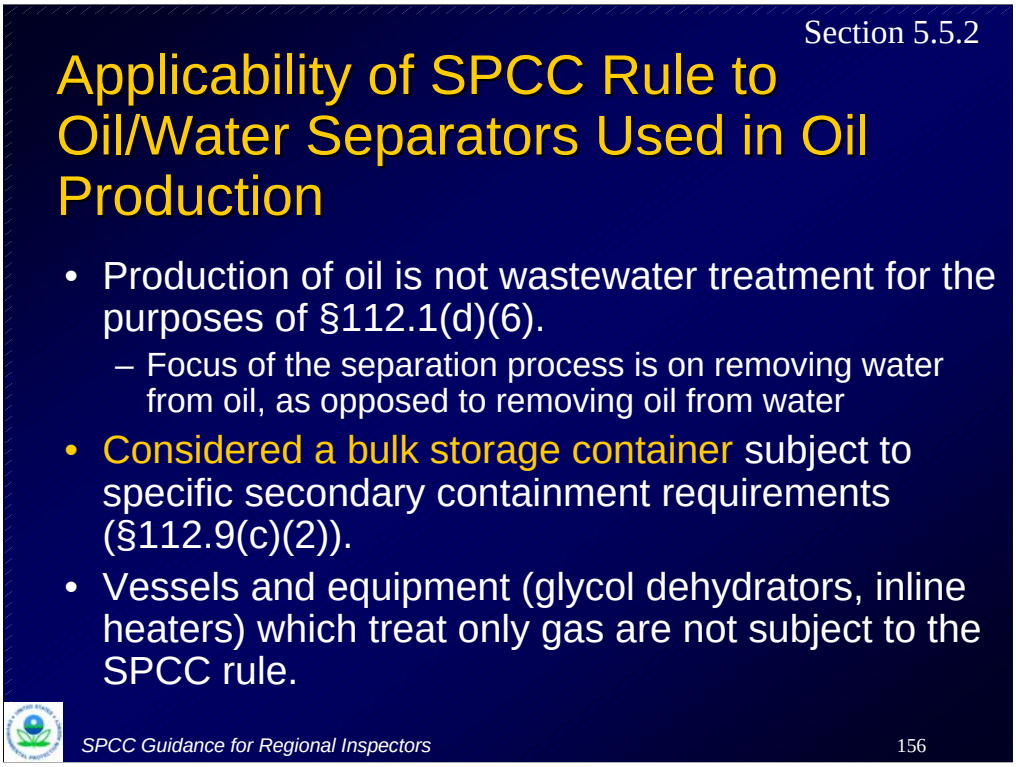
- Separates well fluids into oil/emulsion, gas, and water.
- Generally used when there is free water in the well fluids.



** DESIGNS MAY VARY*

Heater-Treaters

- Use heat, electricity, and/or chemicals to reduce the emulsion viscosity and to separate out free oil, water, and gas in oil production.



Relevant guidance document text:

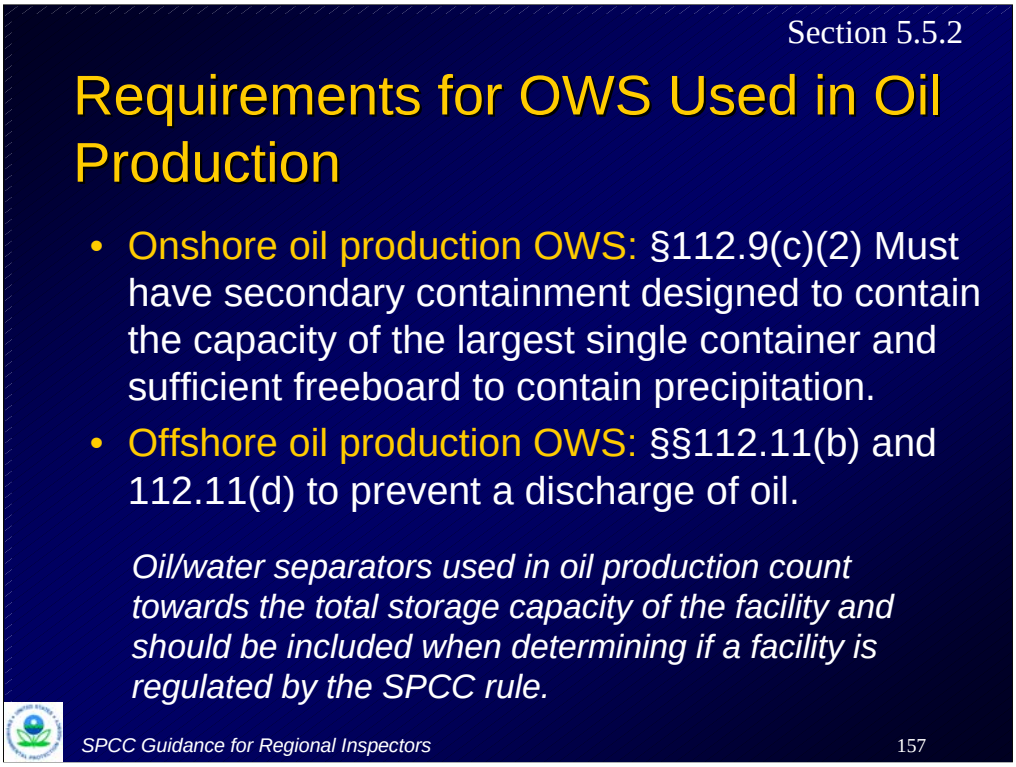
The goal of an oil production, oil recovery, or oil recycling facility is to maximize the production or recovery of oil, while eliminating impurities in the oil, including water, whereas the goal of a wastewater treatment facility is to purify water. Neither an oil production facility nor an oil recovery or recycling facility treats water; instead, it treats oil. For purposes of the wastewater treatment exemption, produced water is not considered wastewater, and treatment of produced water is not considered wastewater treatment. Therefore, a facility that stores, treats, or otherwise uses produced water remains subject to the rule. At oil drilling, oil production, oil recycling, or oil recovery facilities, treatment units subject to the rule include open oil pits or ponds associated with oil production operations, oil/water separators (e.g., gun barrels), and heater-treater units. Open oil pits or ponds function as another form of bulk storage container and are not used for wastewater treatment (67 FR 47068,9). Although the ratio of water to oil can be relatively high, the quantity of oil involved can be still be substantial and pose a threat of a discharge to navigable waters and adjoining shorelines.

Oil/water separators used in the production of oil (e.g., heater-treaters and gun barrels) and other separation and treatment facility installations, are subject to the specific secondary containment requirements for oil production facility bulk storage containers in §112.9(c)(2). Therefore, oil/water separators used in oil production are considered bulk storage containers and are subject to the applicable SPCC requirements under §112.9(c):

• Oil/water separators used in onshore oil production are subject to the provisions of §112.9(c). For example, oil/water separators used in onshore oil production must have secondary containment designed to contain the capacity of the largest single container and sufficient freeboard to contain precipitation (§112.9(c)(2)). If specific secondary containment is determined to be impracticable for the equipment, the SPCC Plan must document the reason for impracticability and comply with the additional regulatory requirements in §112.7(d).

• Oil/water separators used in offshore oil production are subject to the provisions of §112.11(b) and (d) to prevent a discharge of oil. However, if other provisions of the rule (except secondary containment) can be met through alternative methods that provide environmental equivalence for this equipment, then the Plan must include a description in accordance with §112.7(a)(2).

• Vessels and equipment, such as glycol dehydrators and inline heaters, that treat only gas and that do not separate, treat, or contain oil, are not subject to the SPCC rule.

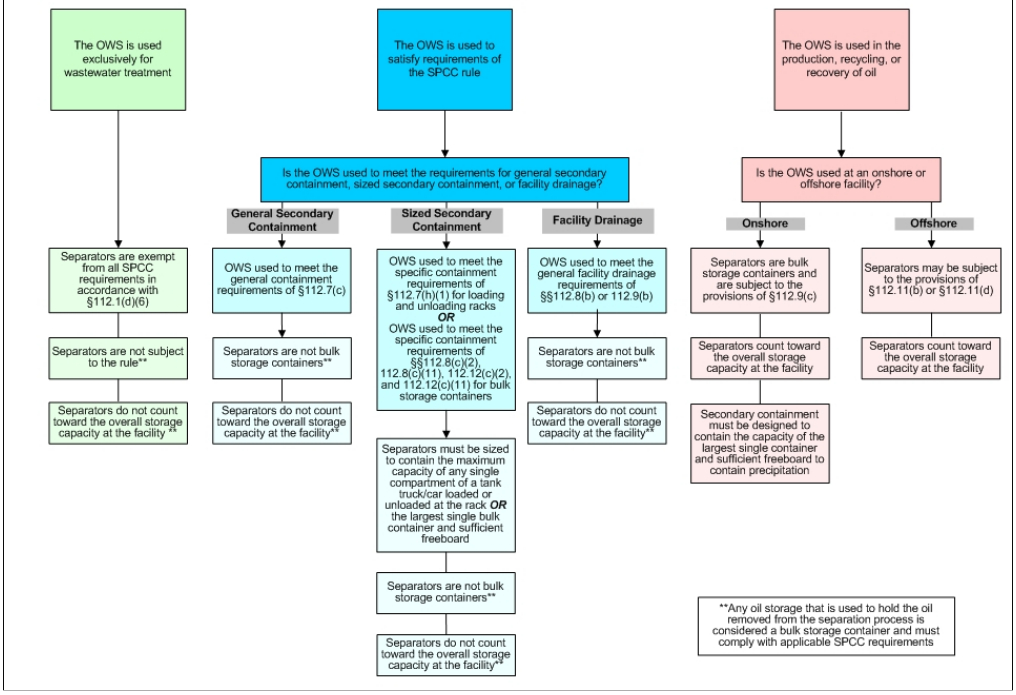


Relevant guidance document text:

Oil/water separators used in onshore oil production are subject to the provisions of §112.9(c). For example, oil/water separators used in onshore oil production must have secondary containment designed to contain the capacity of the largest single container and sufficient freeboard to contain precipitation (§112.9(c)(2)). If specific secondary containment is determined to be impracticable for the equipment, the SPCC Plan must document the reason for impracticability and comply with the additional regulatory requirements in §112.7(d).

Oil/water separators used in offshore oil production are subject to the provisions of §112.11(b) and (d) to prevent a discharge of oil. However, if other provisions of the rule (except secondary containment) can be met through alternative methods that provide environmental equivalence for this equipment, then the Plan must include a description in accordance with §112.7(a)(2).

Summary: Applicable Requirements for an Oil/water Separator



Documentation in SPCC Plan by Owner/Operator

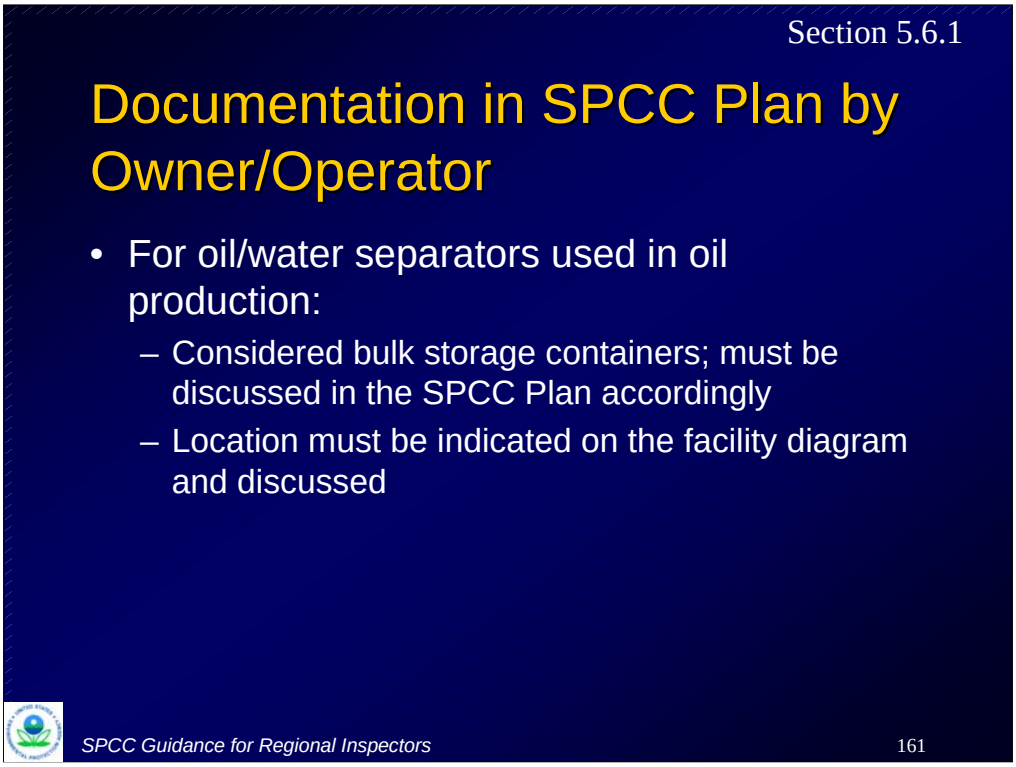
- For OWS used exclusively for wastewater treatment:
  - Exempt from all SPCC requirements and no documentation is required for this equipment in the SPCC Plan.

continued

Documentation in SPCC Plan by Owner/Operator

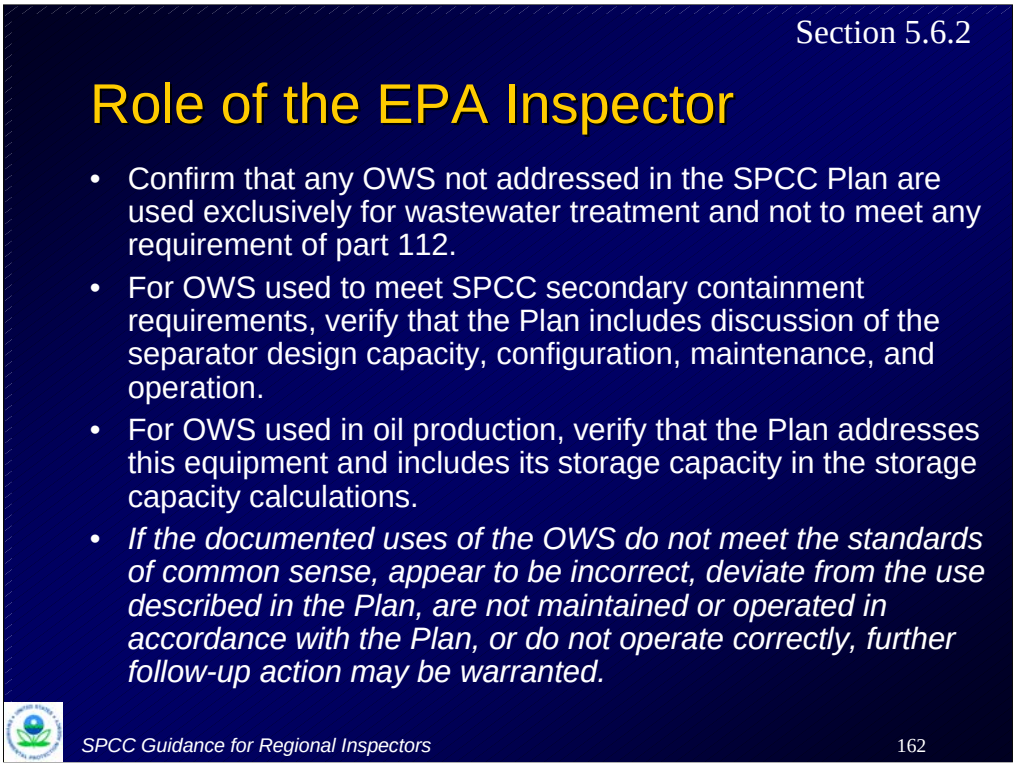
- For oil/water separators used to meet SPCC secondary containment requirements:
  - SPCC Plan should discuss:
    - Separator design capacity
    - Configuration
    - Maintenance
    - Operation
    - Other elements of the drainage systems that ensure proper functioning and containment of the oil

continued



Relevant guidance document text:

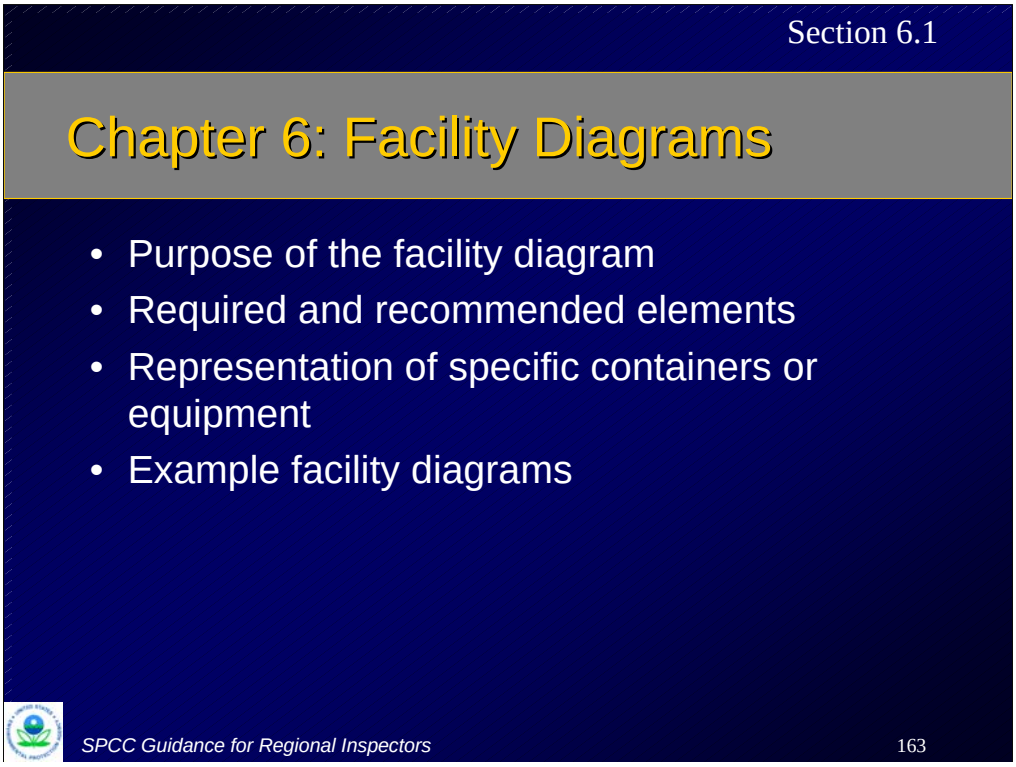
For oil/water separators used in oil production, the oil/water separators are considered bulk storage containers to be included in the SPCC Plan. The location of these containers must be indicated on the facility diagram and discussed in the general requirements in accordance with §112.7(a)(3). For more information on facility diagrams, refer to Chapter 6 of this document. The facility owner/operator may determine that the sized secondary containment required for these oil/water separators is impracticable, pursuant to §112.7(d). If impracticability is determined for sized secondary containment, the SPCC Plan must clearly explain why secondary containment is not practicable and provide an oil spill contingency plan following the provisions of 40 CFR part 109. In addition, such facilities must conduct integrity and leak testing of bulk containers and associated valves and piping, and provide a written commitment of manpower, equipment, and materials to respond to oil discharges (§112.7(d)).



Relevant guidance document text:

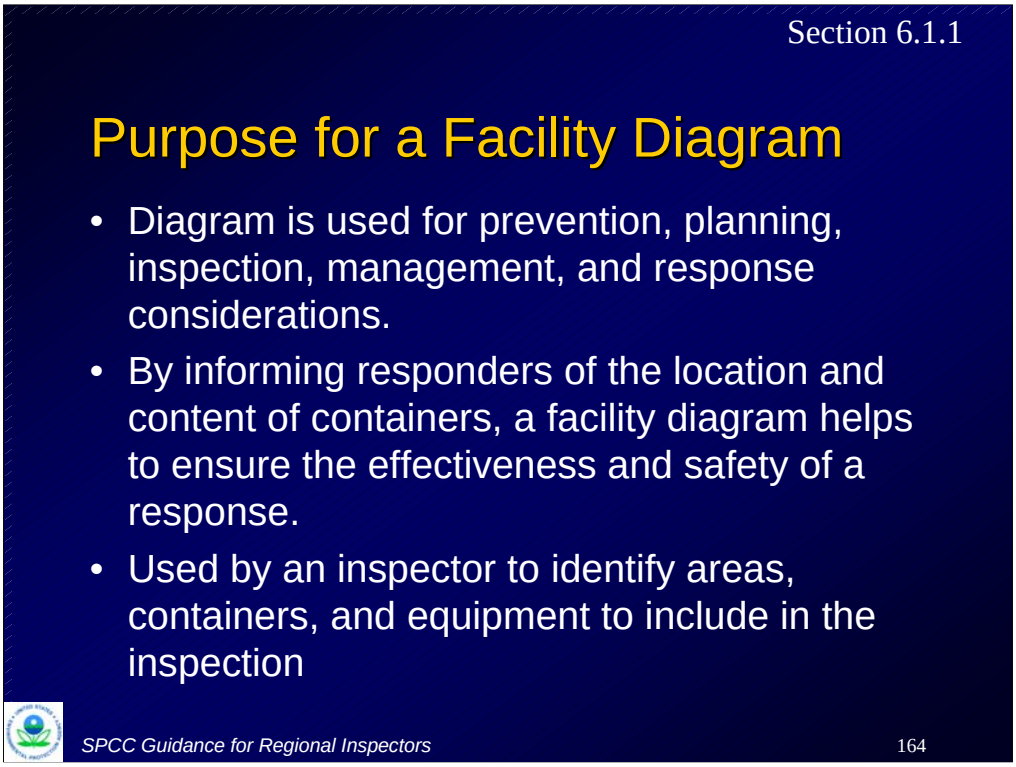
The EPA inspector will verify that any oil/water separators at a facility that are not addressed in the SPCC Plan are in fact used exclusively for wastewater treatment and not to meet any requirement of part 112. This review considers the intended and actual use of the separator. The EPA inspector should consider the intended use of the separator at the facility (e.g., wastewater treatment, secondary containment, oil production, recovery, or recycling), any flow diagrams illustrating the use of the separator, and the design specifications of the unit in evaluating the proper application of the wastewater exemption. The EPA inspector may also consider the flow-through capacity of the separator, the emulsion of oil present within the separator, and the design specifications of the unit in evaluating the use of the oil/water separator.

For oil/water separators used to meet SPCC secondary containment requirements, the EPA inspector will verify that the Plan includes, for each oil/water separator used as secondary containment, a discussion of the separator design capacity, configuration, maintenance, and operation, as well as other elements of the drainage systems that ensure proper functioning and containment of the oil in accordance with §112.7(a)(3)(iii). Inspectors should note the risk associated with this form of containment and should evaluate the design, maintenance, operation, and efficacy of oil/water separator systems used for containment very carefully. Generally, these separators should be monitored on a routine schedule, and collected oil should be removed as appropriate and in accordance with the drainage procedures in the Plan.



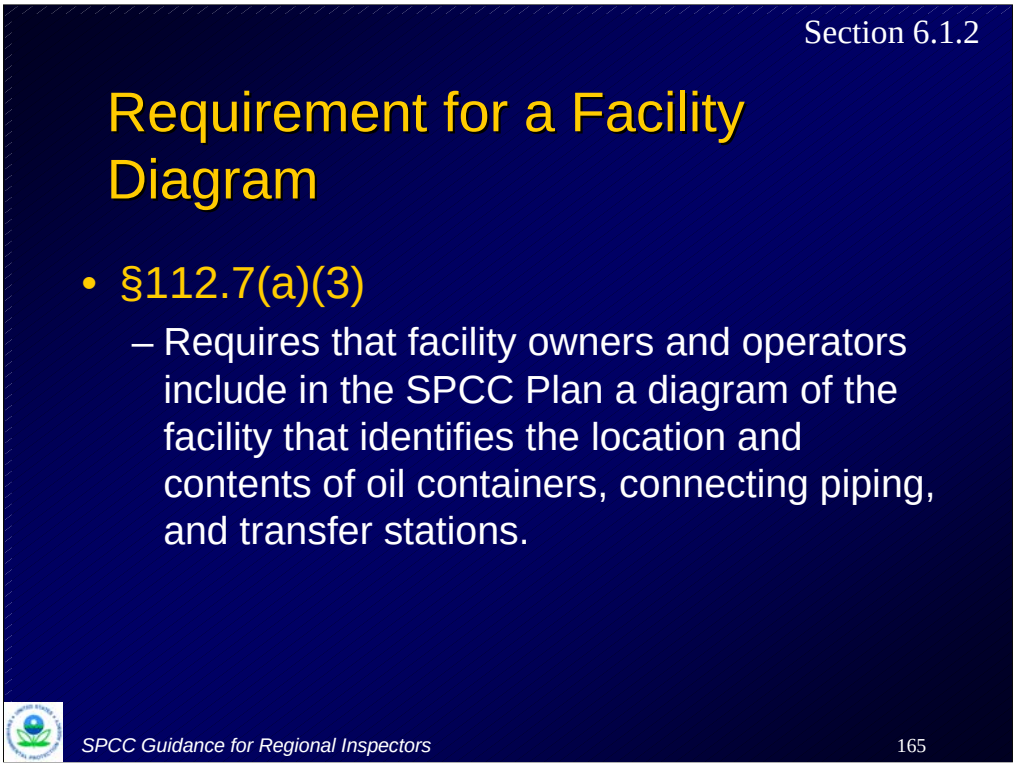
Relevant guidance document text:

Section 112.7(a)(3) of the SPCC rule requires that facility owners and operators include in the SPCC Plan a diagram of the facility that identifies the location and contents of oil containers, connecting piping, and transfer stations. The diagram helps to ensure safe and efficient response actions, effective spill prevention and emergency planning, ease of Plan review by an EPA inspector, and proper implementation of the Plan by facility personnel. This chapter explains the requirement for a facility diagram, provides guidelines on the necessary level of detail, and includes several facility diagrams as examples.



Relevant guidance document text:

The facility diagram is an important component of an SPCC Plan because the diagram is used for prevention, planning, inspection, management, and response considerations. EPA and facility inspectors, responders, and facility personnel need to be aware of the location of all containers, piping, and transfer areas subject to the SPCC rule. The facility diagram may also assist response efforts by helping responders determine the flow pathway of discharged oil and take more effective measures to control the flow of oil. This may avert damage to sensitive environmental areas; may protect drinking water sources; and may help prevent discharges to other conduits, to a treatment facility, or to navigable waters or adjoining shorelines. The diagram may also serve to address the rule requirements by describing, pictorially, the capacity and type of oil in each container, the associated discharge/drainage controls, and the flow path of a discharge (§112.7(a)(3)(i) and (iii) and 112.7(b), respectively). Additionally, the diagram may be attached to a facility inspection checklist to identify areas, containers, or equipment subject to inspection. Diagrams may also help federal, state, or facility personnel avoid certain hazards and identify the location of facility response equipment. Finally, by informing responders of the location and content of containers, a facility diagram helps to ensure their safety in conducting response actions and to protect property.



Relevant guidance document text:

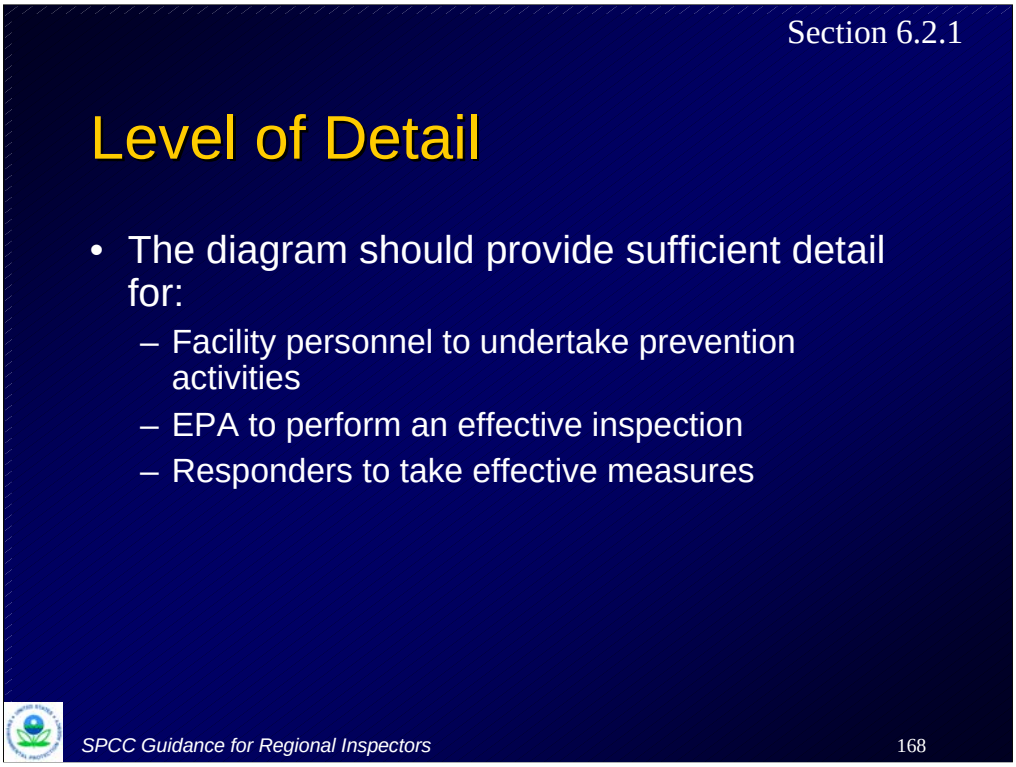
A description of the physical layout of a facility, including a facility diagram, is one of the general requirements for an SPCC Plan. The 2002 revisions to the SPCC rule added a new specific requirement in §112.7(a)(3) for a facility diagram to be included in the Plan. Section112.7(a)(3) requires that the facility diagram include the location and contents of each container, completely buried tanks (even if exempted from the SPCC requirements), transfer areas (i.e., stations), and connecting pipes. In addition to the requirement for a facility description and diagram, §112.7(a)(3) lists additional items to be addressed in an SPCC Plan, including the type of oil in each container and its capacity; discharge prevention measures; discharge or drainage controls; countermeasures for discharge discovery, response, and cleanup; methods of disposal of recovered materials; and specific contact information. Please see §112.7(a)(3) for these requirements in their entirety.

Required Elements (§112.7(a)(3))

- Aboveground and underground storage tanks
- Mobile/portable containers
- Hydraulic operating systems or manufacturing equipment
- Oil-filled electrical transformers and circuit breakers
- Any other oil-filled equipment
- Oil pits or ponds (at production facilities)
- Oil/water separators (e.g., associated with production facilities)
- Fill ports and connecting piping (scale of drawing permitting)
- Oil transfer areas
- Loading racks/unloading areas

Recommended Elements

- Secondary containment structures, including oil/water separators used for containment
- Storm drain inlets and surface waters that could be affected by a discharge
- Direction of flow in the event of a discharge
- Legend that indicates scale and identifies symbols used in the diagram
- Location of response kits and firefighting equipment
- Location of valves or drainage system control that could be used in the event of a discharge to contain oil on the site
- Compass direction
- Topographical information and area maps

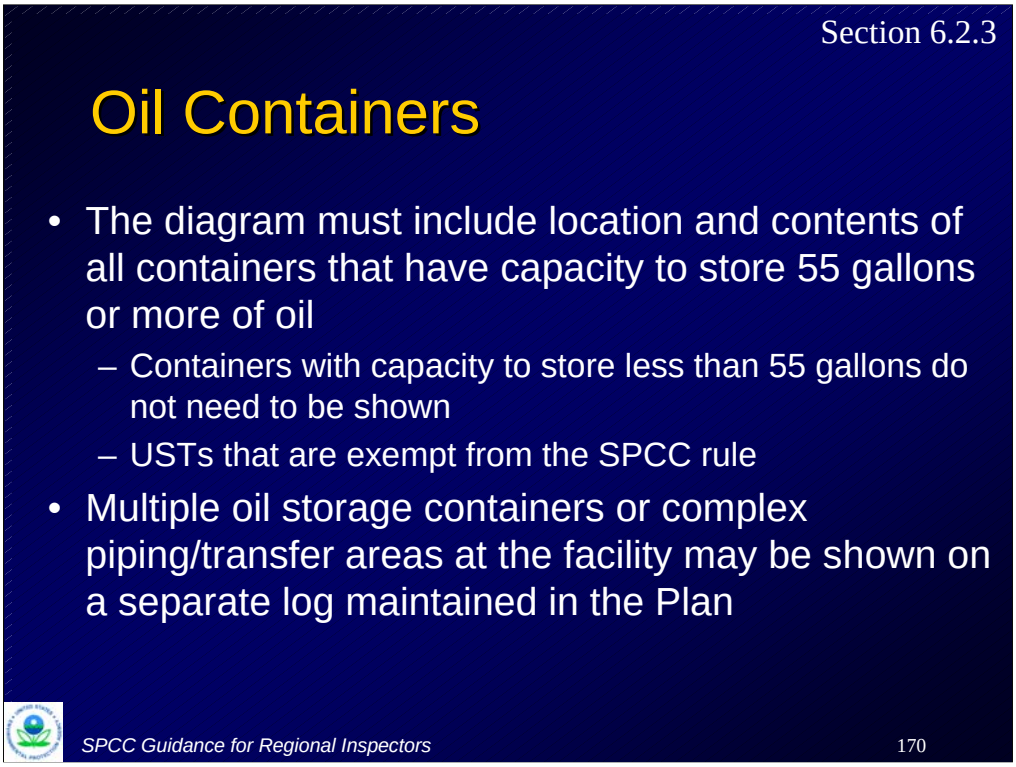


Relevant guidance document text:

The facility diagram should provide sufficient detail for the facility personnel to undertake prevention activities, for EPA to perform an effective inspection, and for responders to take effective measures. As with other aspects of the SPCC Plan, the facility diagram is to be prepared in accordance with good engineering practice and reviewed by the PE as part of Plan certification. Thus, the level of detail provided and the approach taken for preparing an adequate facility diagram is primarily at the discretion of the certifying PE.

Relevant guidance document text:

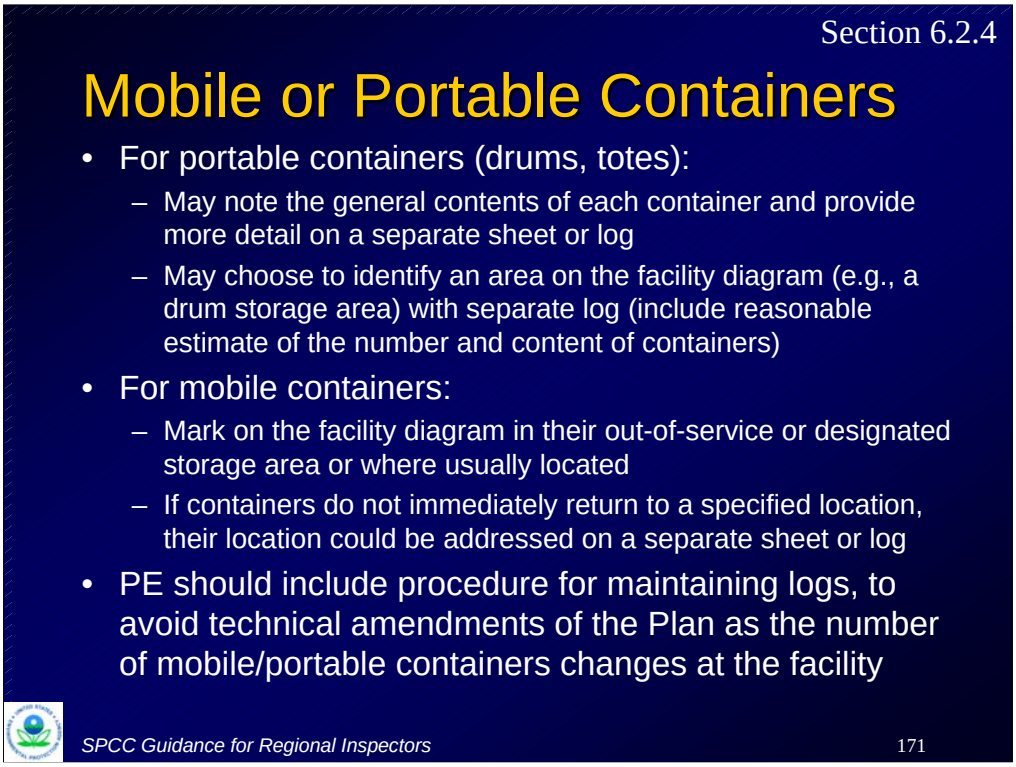
Section 112.7(a)(3) requires that the Plan include a description of the physical layout of the facility. In addition to marking the location and contents of each oil storage container at the facility, this description may include information on the facility location, type, size, and proximity to navigable waters, as well as other relevant information. This general facility description is often supplemented with a more specific description of containers subject to the SPCC rule to complement what is required on the facility diagram (e.g., storage capacity and content).



Relevant guidance document text:

The facility diagram must include all containers (including oil-filled equipment) that store 55 gallons or more of oil and must include information indicating the contents of these containers (§112.7(a)(3)). The 2002 revisions to the SPCC rule established a minimum container size of 55 gallons. Pursuant to §112.1(d)(5), the rule does not apply to containers of less than 55 gallons, and therefore they do not need to be included on the facility diagram.

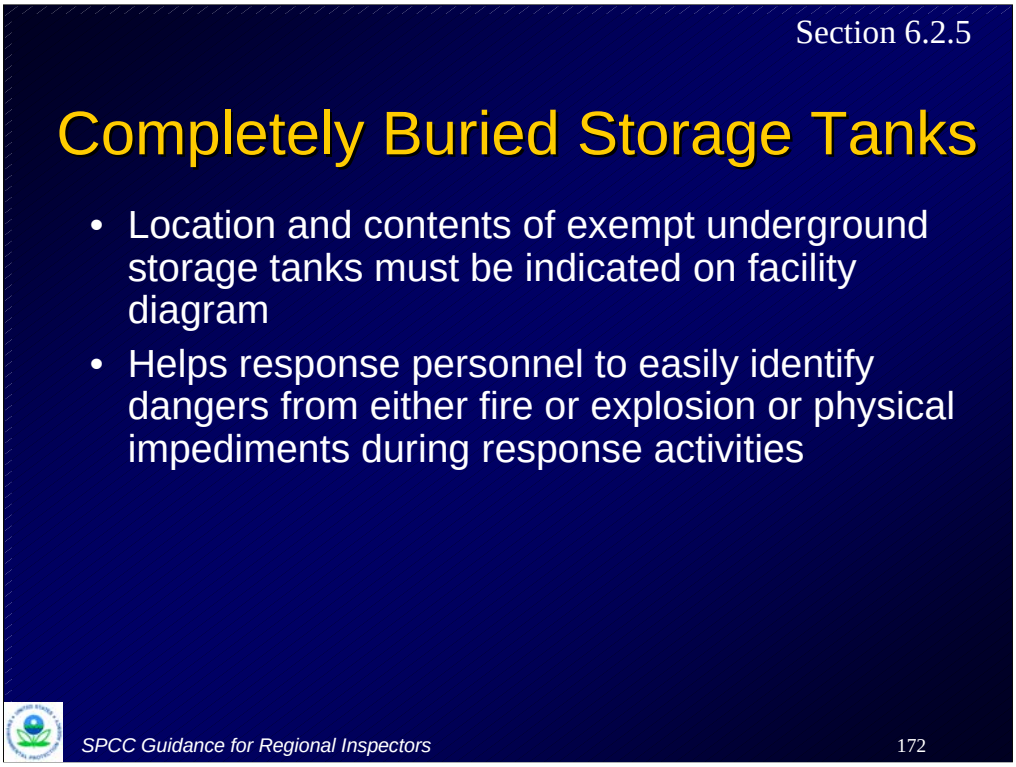
In situations where diagrams become complicated due to the presence of multiple oil storage containers or complex piping/transfer areas at the facility, it may be difficult to indicate the contents and capacity of the containers on the diagram itself. In order to simplify the diagram, the PE may choose to include that information on a separate log or sheet maintained in the Plan, similar to the description outlined below for mobile/portable containers.



Relevant guidance document text:

For portable containers (e.g., drums and totes), the facility owner/operator may note the general contents of each container and provide more detailed content information on a separate sheet or log, as well as other information, such as container capacity, that the PE determines to be appropriate to adequately describe the facility. If the contents of a container change frequently, the contents may be recorded on a separate sheet or log, or on the diagram (67 FR 47097). In this case, the diagram should note that contents vary. Additionally, the PE may choose to identify an area on the facility diagram (e.g., a drum storage area) and include a separate log that can be updated by facility personnel. The PE should develop a reasonable estimate of the number of containers in the area and the capacity of the containers, and consider routine movement of the containers for the Plan.

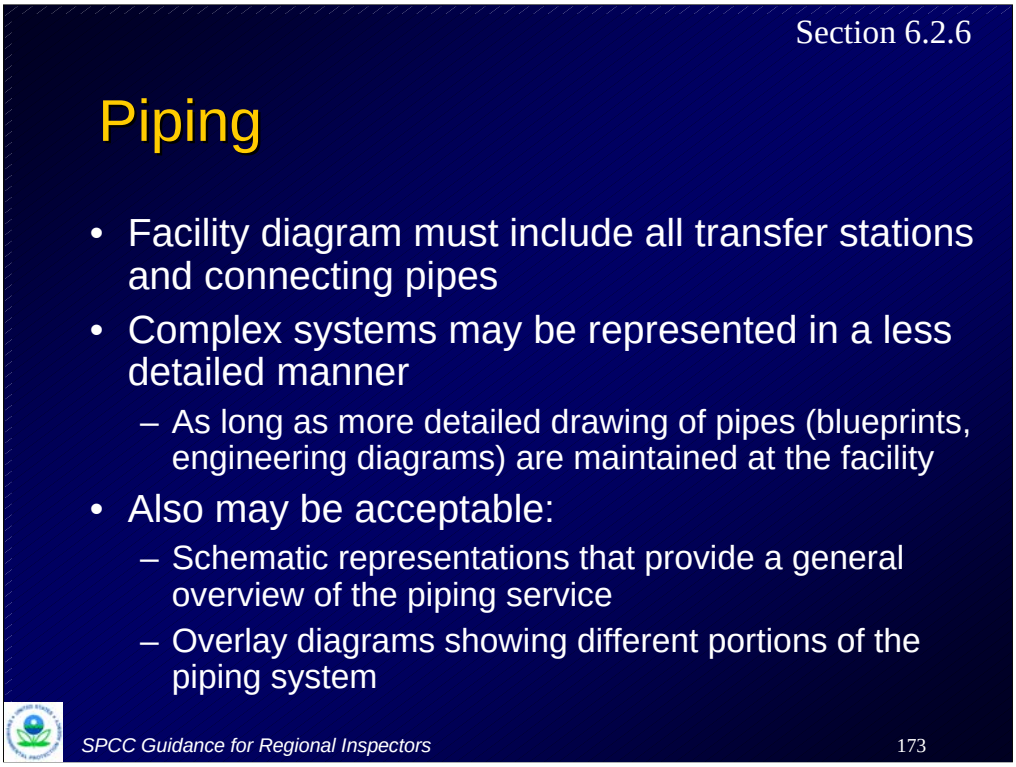
Mobile containers should be marked on the facility diagram in their out-of-service or designated storage area or where they are most frequently located, such as a warehouse drum storage area. The facility owner/operator and certifying PE determine how best to represent mobile/portable containers on the facility diagram, such as by developing a log or indicating primary storage areas. If mobile containers are moved throughout the facility and do not immediately return to a specified location easily identified on the facility diagram, the exact location could be addressed on a separate sheet or log. This log would complement the facility diagram and the SPCC Plan by providing further information on the specific location and contents of mobile and portable containers. In addition, the diagram must identify the final location of mobile or portable containers (as required in §112.7(a)(3)) that return to a specific designated area to comply with the specific secondary containment requirements in §112.8(c)(11).



Relevant guidance document text:

A facility diagram must include the location and contents of all containers required to be addressed in the SPCC Plan (67 FR 47097 and §112.7(a)(3)). This includes exempt underground storage tanks (USTs) as well as USTs that are subject to SPCC requirements at the facility. The rationale for this requirement is to help response personnel to easily identify dangers from either fire or explosion, or from physical impediments during response activities. For example, exempted tanks may include completely buried USTs and piping systems at a gasoline service station that are subject to all technical requirements of either 40 CFR part 280 or an approved state UST program under 40 CFR part 281.

As discussed in Chapter 2 of this document, a facility may have USTs that are subject to SPCC requirements because they are deferred from compliance with some or all of the technical requirements of 40 CFR part 280 (e.g., UST systems with field constructed tanks, any UST system that stores fuel solely for use by an emergency power generator, airport hydrant fuel distribution systems). Any USTs at a facility that are subject to SPCC requirements must also be marked on the facility diagram (§112.7(a)(3)).

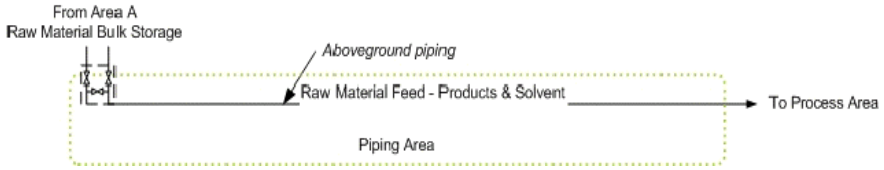


Relevant guidance document text:

The facility diagram must also include all transfer stations (i.e., any location where oil is transferred) and connecting pipes (§112.7(a)(3)). Associated piping and manufacturing equipment present at an SPCC-regulated facility may be difficult to represent on a facility diagram, due to their relative location, complexity, or design. Recognizing this, EPA allows flexibility in the way the facility diagram is drawn. An owner/operator may represent such systems in a less detailed manner on the facility diagram in the SPCC Plan as long as more detailed diagrams of the systems are maintained at the facility and referenced on the diagram. Examples of more detailed diagrams may include blueprints, engineering diagrams, or diagrams developed to comply with other local, state, or federal requirements.

The scale and level of detail of the facility diagram may make it difficult to show small transfer lines within containment structures. Schematic representations that provide a general overview of the piping service (e.g., supply/return) may provide sufficient information when combined with a description of the piping in the Plan. Alternatively, overlay diagrams showing different portions of the piping system may be used where the density and/or complexity of the piping system would make a single diagram difficult to read.

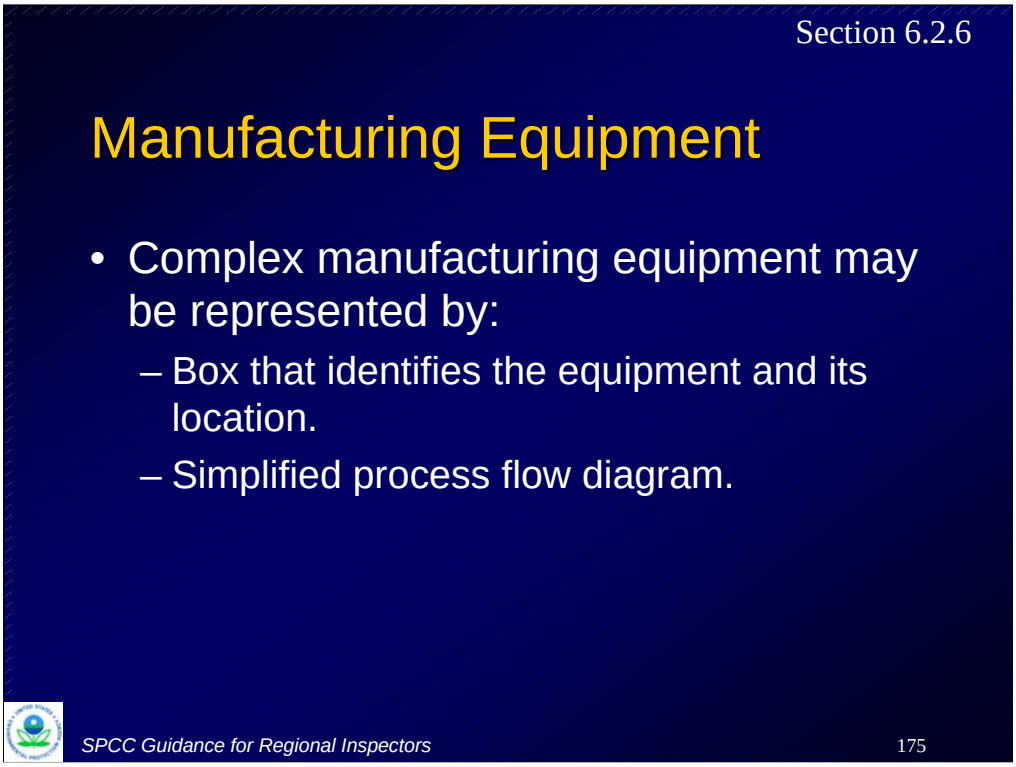
Example: Complex Piping



Example of how a complex piping area could be represented in a facility diagram.

Relevant guidance document text:

As long as more detailed diagrams are available at the facility, for areas of complicated piping, which often include different types, numbers, and lengths of pipes, the diagram may show a simplified box labeled “piping” or a single line that identifies the service.

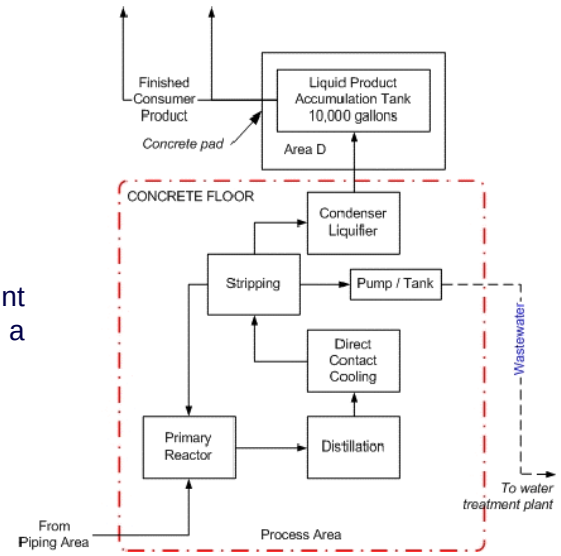


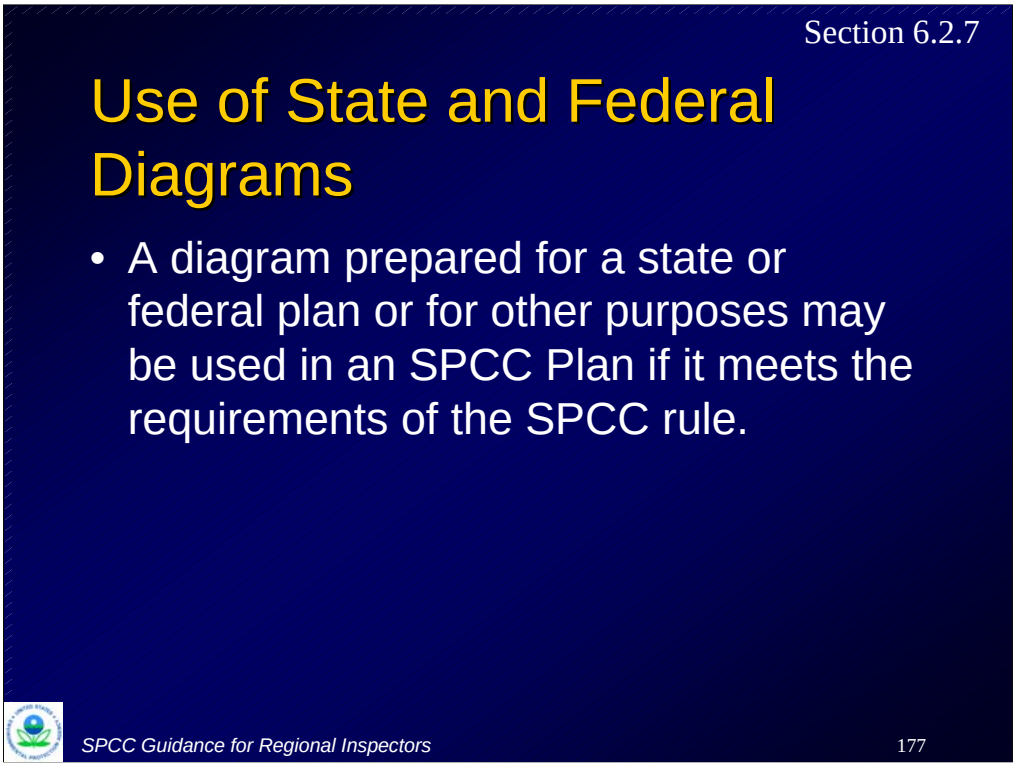
Relevant guidance document text:

Examples of ways that manufacturing equipment may be represented include a box that identifies the equipment and its location, or a simplified process flow diagram. For areas of complicated piping, which often include different types, numbers, and lengths of pipes, the facility diagram may show a simplified box labeled “piping” or show a single line that identifies the service (e.g., supply/return), as long as more detailed diagrams are available at the facility.

Example: Manufacturing Equipment

Example of how manufacturing equipment could be represented in a facility diagram.





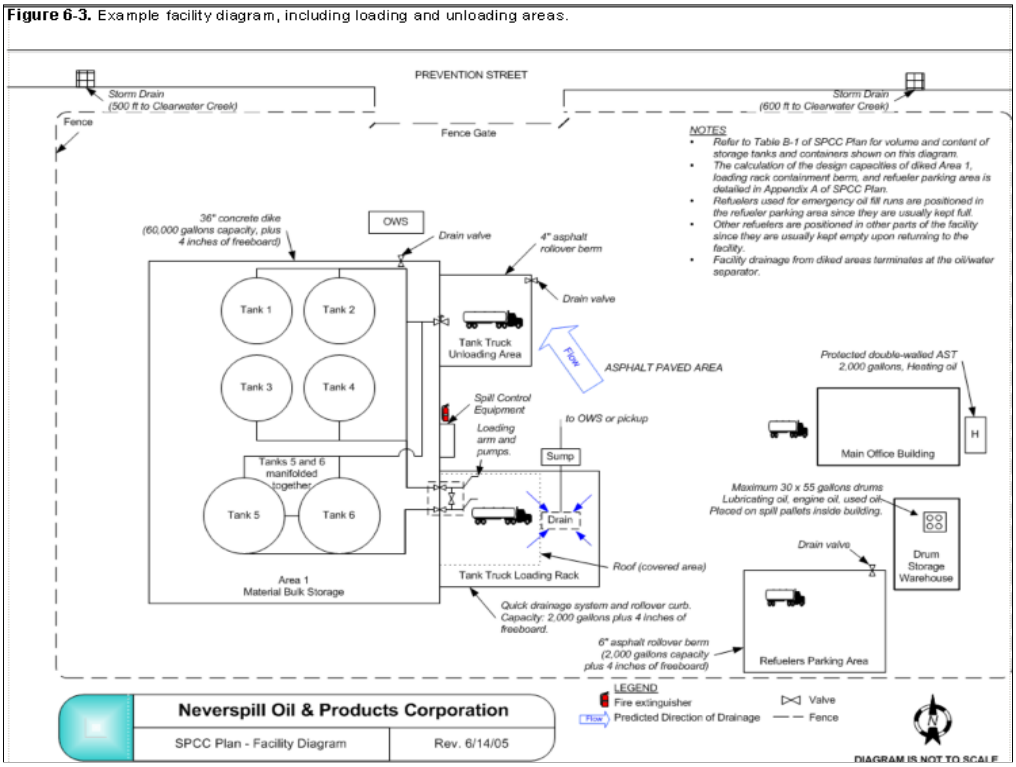
Supplemental Information:

Some state and federal regulations may require a diagram with similar or overlapping requirements, whereas others do not. SPCC is a federal program that specifies minimum requirements, which states may supplement with more stringent requirements. A facility diagram prepared for a state or federal plan or for other purposes (construction permits, facility modifications, or other pollution prevention requirements) may be used in an SPCC Plan if it meets the requirements of the SPCC rule.

Facility Diagram Examples

- Three fictitious SPCC-regulated facilities.
- Diagrams illustrate how certain containers and equipment could be represented in a facility diagram.
- Example #1: Bulk Storage and Distribution Facility
- Example #2: Manufacturing Facility
- Example #3: Oil Production Facility

Figure 6-3. Example facility diagram, including loading and unloading areas.



Relevant guidance document text:

This is an example of a diagram for a bulk storage and distribution facility, which has a tank farm, a loading rack and an unloading area, and other oil containers and oil-filled equipment. This diagram corresponds to the model SPCC Plan for a bulk storage distribution facility that is provided in Appendix D of this guidance document. Because it has fewer tanks and less complex operations than a manufacturing facility for example, this facility requires a less detailed facility diagram than the example provided in Figure 6-4.

As required by §112.7(a)(3), this diagram includes all containers with an oil storage capacity of 55 gallons or greater. In addition to listing the contents directly on the diagram, the diagram provides a reference to a supplementary table that contains the volume and content of the storage tanks shown on the diagram (appended to the diagram as Table B-1). At the discretion of the PE who reviewed and certified the Plan, the example facility diagram also depicts secondary containment methods, and includes a reference to calculations of containment capacity provided in other parts of the SPCC Plan. Also, a separate log (Table B-2) identifies the contents of the drums in the storage warehouse. Please refer to Section 6.2.3 of this document for more information.

Volume and Content of the Storage Tanks

- **Table B-1.** Volume and contents of tanks and containers identified on the facility diagram. Please see facility diagram to identify the areas below.

Tank/Container	Volume (gallons)	Contents
Area 1		
Tank 1	25,000	Product A – #2 fuel oil
Tank 2	25,000	Product A – #2 fuel oil
Tank 3	25,000	Product B – #6 fuel oil
Tank 4	25,000	Product B – #6 fuel oil
Tank 5	30,000	Product C – Kerosene
Tank 6	30,000	Product C – Kerosene
Main Office Building		
Tank H	2,000	Heating oil
Drum Storage Warehouse		
Up to 30 drums	55 (each)	Various oil products (lubricating oil, engine oil, used oil, etc.)

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Section 6.3.1

Drum Storage Warehouse log

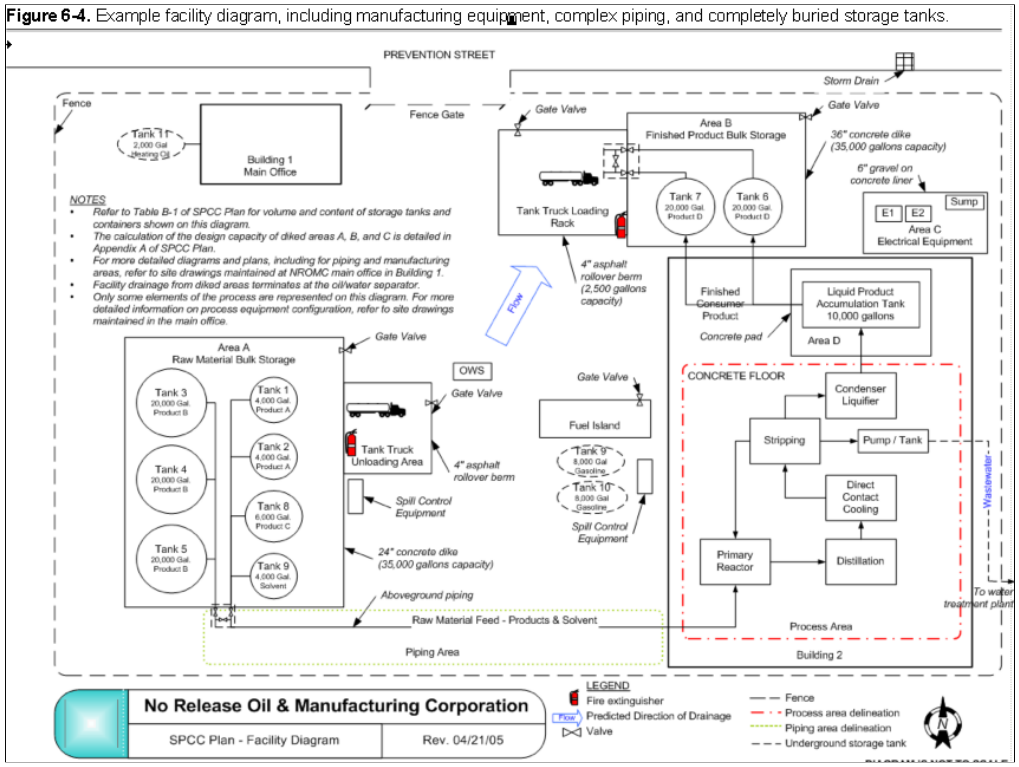
Table B-2. Drum storage warehouse log.

Date	Number and type of container	Contents	Capacity	Location at facility
6/14/04	15 drums	Lubrication oil	55X12 = 825	Drum storage warehouse
9/21/05	5 drums	Engine oil	55X5=275	Drum storage warehouse
1/05/06	10 drums	Used oil	55X10=550	Drum storage warehouse

NOTE:

This table has been altered from its original content in the guidance document. To reflect more realistic circumstances, the dates in the left-hand column have been staggered (originally they were all listed as the same date).

Figure 6-4. Example facility diagram, including manufacturing equipment, complex piping, and completely buried storage tanks.



Relevant guidance document text:

As required by §112.7(a)(3), this diagram includes all containers with a storage capacity of 55 gallons or greater. In addition to listing the contents directly on the diagram, it includes a reference to a crosswalk that contains the volume and content of the storage containers shown on the diagram (appended to the diagram as Table B-3). Also, while not required, the diagram marks the location of containers that store CWA hazardous substances and labels those containers. EPA would further recommend that the specific volume and specific contents of the 4,000-gallon solvent tank be included in the crosswalk. Additionally, the diagram notes the location and content of completely buried storage tanks that, although otherwise exempt from the SPCC rule because they meet all the technical requirements of 40 CFR part 280 or an approved state UST program under 40 CFR part 281, must still be included in the diagram in accordance with §112.7(a)(3).

This diagram also includes an example of how manufacturing equipment and complex piping may be represented on a facility diagram. The diagram references the more detailed diagrams and plans of the piping and manufacturing equipment that are available separately at the facility. For more information on ways to represent these systems, please see Section 6.2.6, Piping and Manufacturing Equipment, above.

Finally, while not required to be included in the diagram, this example facility diagram also includes a reference to the calculation of diked storage provided in other parts of the SPCC Plan and depicts wastewater treatment systems, secondary containment, and oil/water separators.

Table B-3. Volume and contents of tanks and containers identified on the facility diagram. Please see facility diagram to identify the areas below.

Tank/Container	Volume (gallons)	Contents
Area A – Raw Material Bulk Storage		
Tank 1	4,000	Product A – #2 fuel oil
Tank 2	4,000	Product A – #2 fuel oil
Tank 3	20,000	Product B – #6 fuel oil
Tank 4	20,000	Product B – #6 fuel oil
Tank 5	20,000	Product B – #6 fuel oil
Tank 8	6,000	Product C – Kerosene
Tank 9	40,000	Solvent – Toluene
Area B – Finished Product Bulk Storage		
Tank 6	20,000	Product D – proprietary oil
Tank 7	20,000	Product D – proprietary oil
Area C – Electrical Equipment		
Transformer E1	235	Silicon-based dielectric fluid
Transformer E2	235	Silicon-based dielectric fluid
Area D		
Liquid Product Accumulation Tank	10,000	Product D – proprietary oil
Process Area		
Primary Reactor	500	intermediate oil product
Distillation	500	intermediate oil product
Direct Contact Cooling	500	intermediate oil product
Stripping	500	intermediate oil product
Pump/Tank	300	intermediate oil product
Condenser Liquifier	500	intermediate oil product
Underground Storage Tanks		
Tank 9 (otherwise exempt from SPCC requirements)	8,000	gasoline
Tank 10 (otherwise exempt from SPCC requirements)	8,000	gasoline
Tank 11	2,000	heating oil

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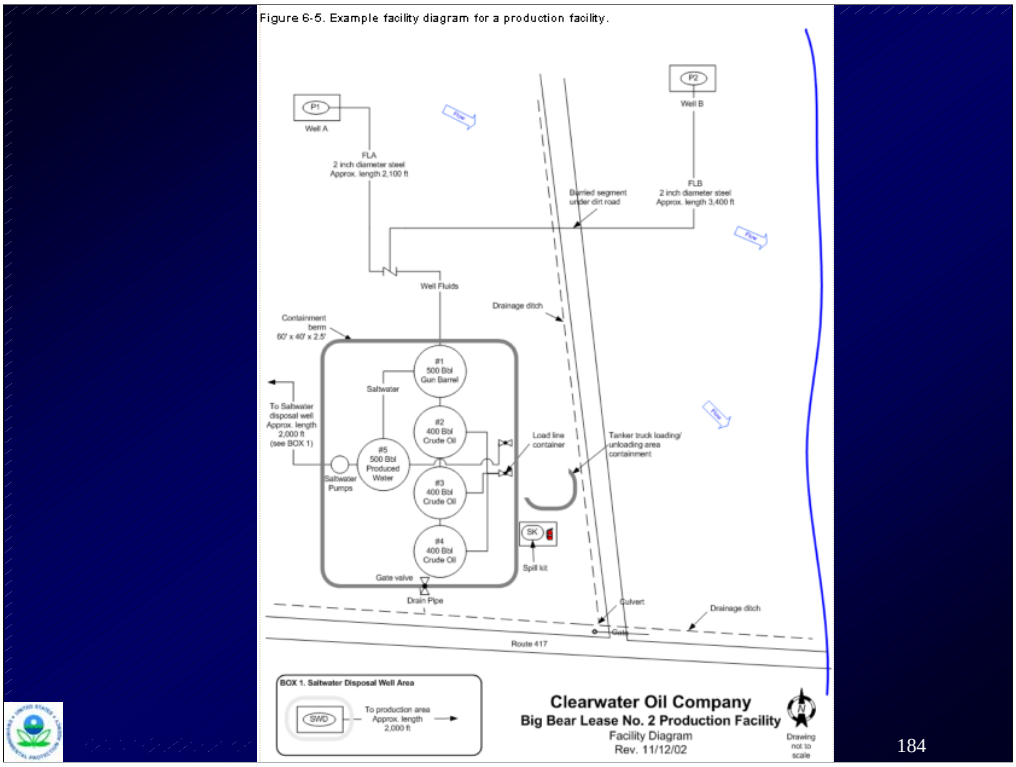
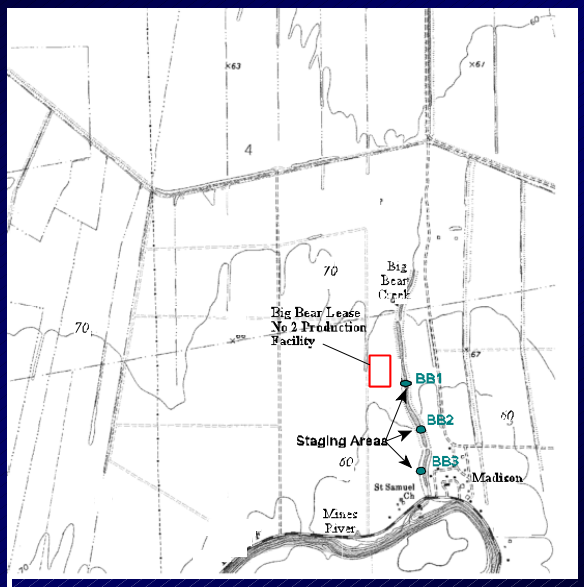


Relevant guidance document text:

Figure 6-5 is an example facility diagram for a small oil production facility with two extraction wells and a production tank battery. As required by §112.7(a)(3), this diagram includes all containers with a storage capacity of 55 gallons or greater and transfer areas. Because the facility has a relatively large footprint, the direction of flow is best displayed on a separate figure that shows the general location of the site relative to receiving waterbodies.

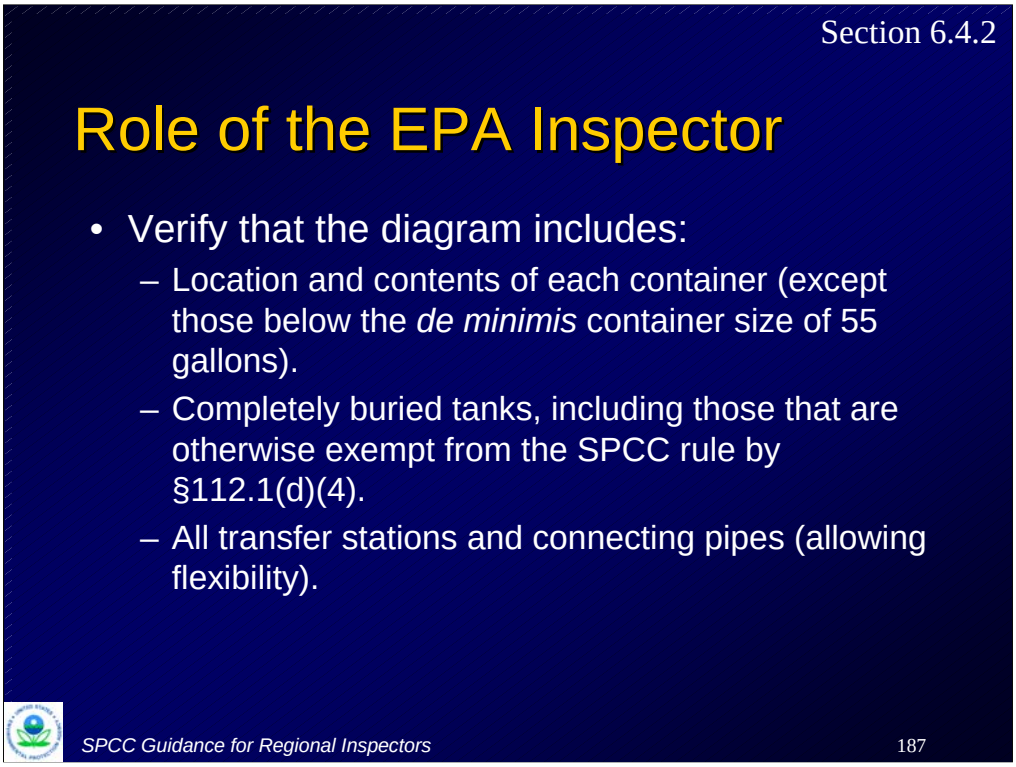
Facility Location Diagram



Example General facility location diagram for a production facility

Relevant guidance document text:

By certifying an SPCC Plan, a PE attests that he/she is familiar with the requirements of 40 CFR part 112, that the Plan has been prepared in accordance with good engineering practice, following the requirements of 40 CFR part 112, that the Plan is adequate for the facility, and that he or his agent visited the facility. Thus, if an SPCC Plan is certified by a PE and the facility diagram is consistent with the rule requirements, it will most likely be considered acceptable by regional inspectors. However, if the diagram does not meet these standards of common sense, the facility design has changed, the supporting drawings for a simplified diagram are not available at the facility, or the diagram appears to be inadequate for the facility, appropriate follow-up action may be warranted. This may include a request for more information or a Plan amendment in accordance with §112.4(d).

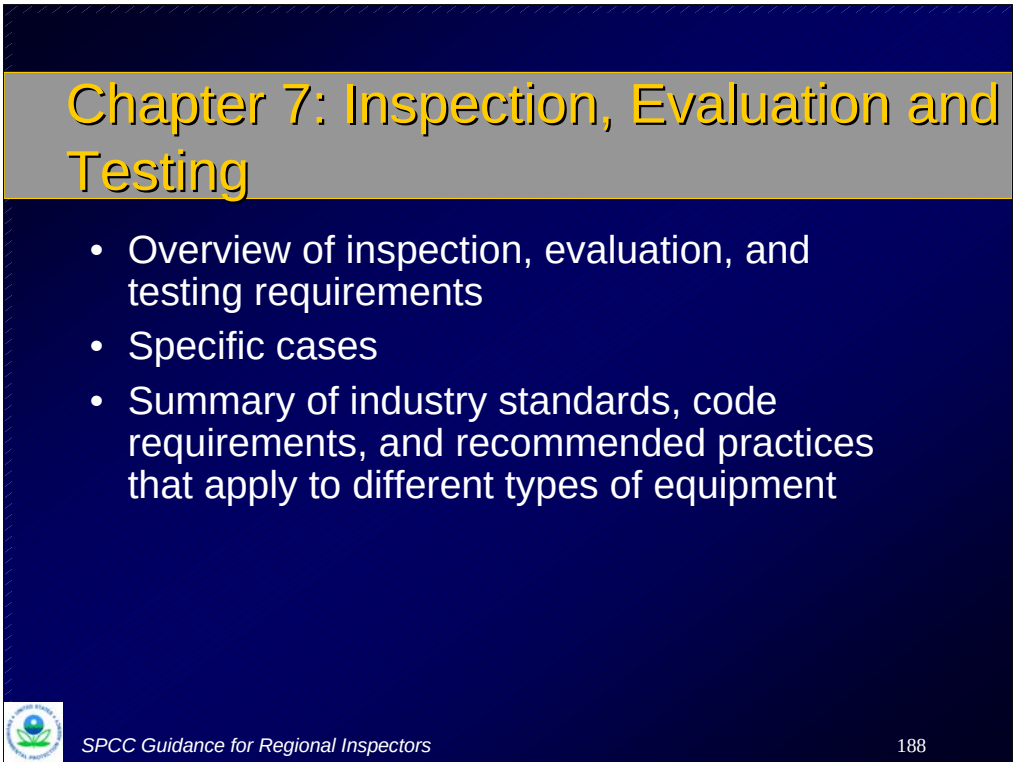


Relevant guidance document text:

The inspector should verify that the diagram accurately represents the facility layout and provides sufficient detail as outlined in §112.7(a)(3), and use it as a guide for the containers and piping inspected during the site visit. The EPA inspector should verify that the diagram included in the Plan includes:

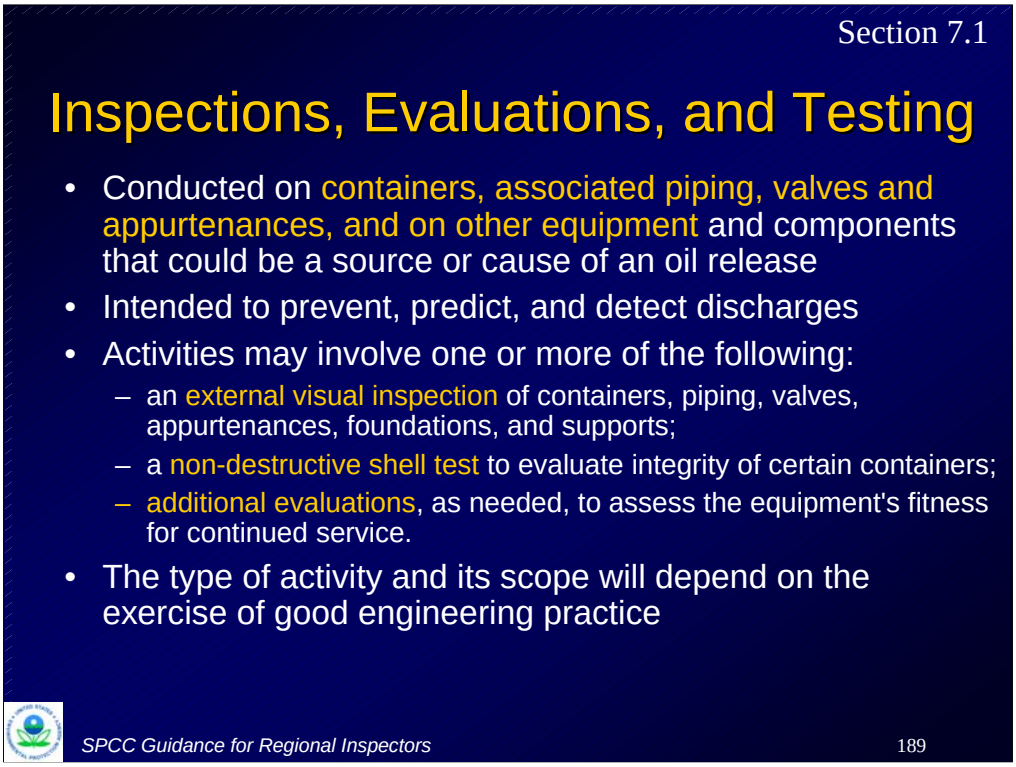
- Location and contents of each container (except those below the de minimis container size of 55 gallons as described in Section 6.2.3, above).
- Completely buried tanks, including those that are otherwise exempt from the SPCC rule by §112.1(d)(4).
- All transfer stations and connecting pipes (allowing the flexibility as described in Section 6.2.6, above).

Although EPA generally stated in both the preamble of the 2002 SPCC rule (67 FR 47097) and in §112.7(a)(3) that all facility transfer stations and connecting pipes that handle oil must be Include in the diagram, it is reasonable to allow flexibility on the method of depicting concentrated areas of piping and manufacturing equipment on the facility diagram. These areas may be represented in a more simplified manner, as long as more detailed diagrams (such as blueprints,engineering diagrams, or process charts) are available at the facility. The inspector may ask to review more detailed diagrams of piping and manufacturing equipment if further information is needed during a site inspection.



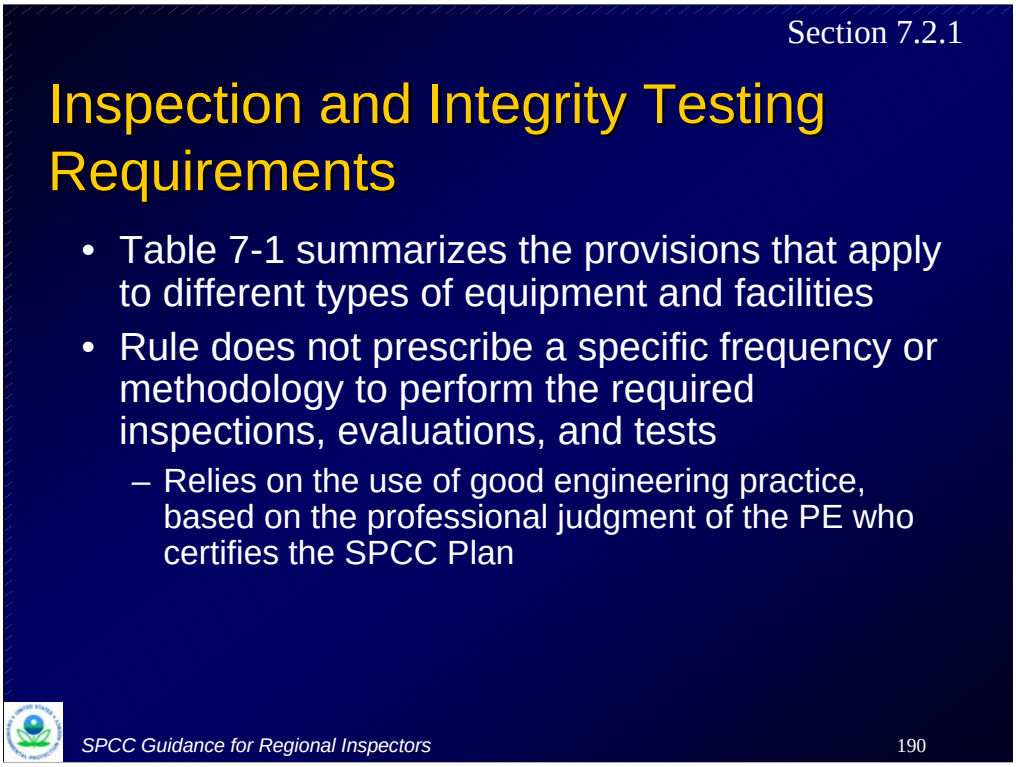
Relevant guidance document text:

Regularly scheduled inspections, evaluations, and testing by qualified personnel are critical parts of discharge prevention. Their purpose is to prevent, predict, and readily detect discharges. They are conducted not only on containers, but also on associated piping, valves, and appurtenances, and on other equipment and components that could be a source or cause of an oil release. Activities may involve one or more of the following: an external visual inspection of containers, piping, valves, appurtenances, foundations, and supports; a non-destructive shell test to evaluate integrity of certain containers; and additional evaluations, as needed, to assess the equipment's fitness for continued service. The type of activity and its scope will depend on the exercise of good engineering practice; not every action will necessarily be applicable to every facility and container, and additional inspections may be required in some cases.



Relevant guidance document text:

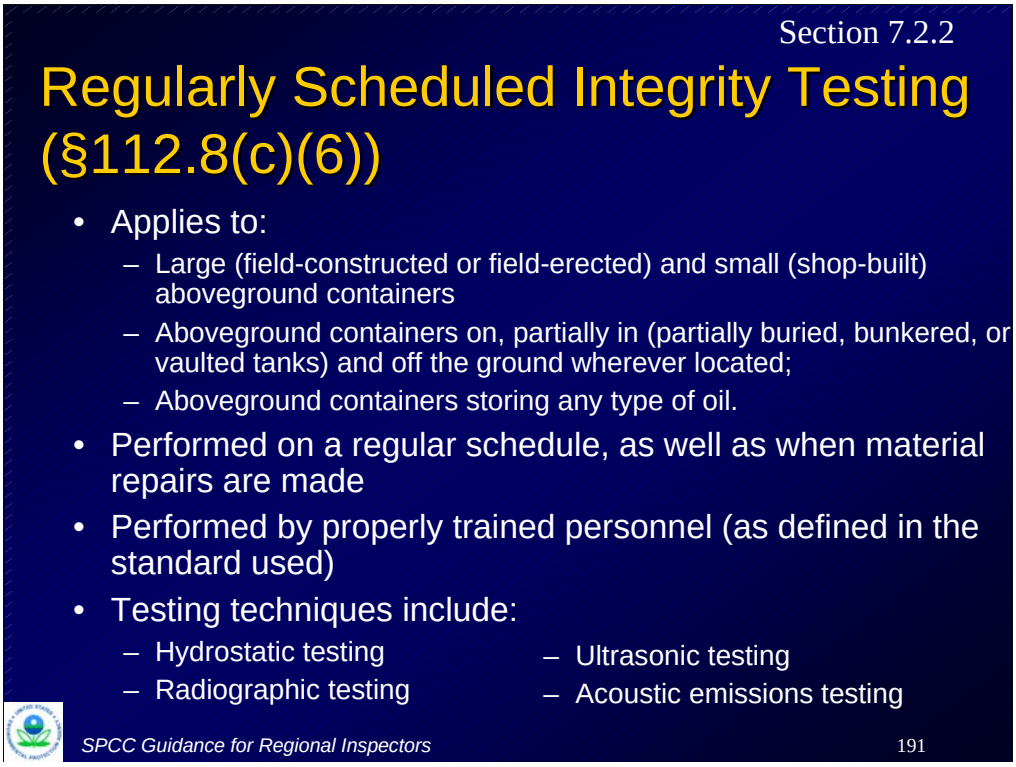
Various provisions of the SPCC rule relate to the inspection, evaluation, and testing of containers, associated piping, and other oil-containing equipment. Different requirements apply to different types of equipment and to different types of facilities. The requirements are generally aimed at preventing discharges of oil caused by leaks, brittle fracture, or other forms of container failure by ensuring that containers used to store oil have the necessary physical integrity for continued oil storage. The requirements are also aimed at detecting container failures (such as small pinhole leaks) before they can become significant and result in a discharge as described in §112.1(b).



Relevant guidance document text:

Inspection and/or testing requirements also apply to other components of a facility that might cause a discharge (such as vehicle drains, foundations, or other equipment or devices). Other inspection requirements also apply to oil production facilities. In addition, inspection, evaluation, and testing requirements are required under certain circumstances, such as when an aboveground field-constructed container undergoes repairs, alterations, or a change in service that may affect its potential for a brittle fracture or other catastrophe, or in cases where secondary containment for bulk storage containers is impracticable (§112.7(d), as described in Chapter 4 of this document.) Facility owners and operators must also maintain corresponding records to demonstrate compliance (§§112.8(c)(6), 112.8(d)(4), 112.9(b)(2), 112.9(c)(3), and 112.9(d)(1) and (2)) per §112.7(e).

The SPCC rule is a performance-based regulation. Since each facility may present unique characteristics and since methodologies may evolve as new technologies are developed, the rule does not prescribe a specific frequency or methodology to perform the required inspections, evaluations, and tests. Instead, it relies on the use of good engineering practice, based on the professional judgement of the Professional Engineer (PE) who certifies the SPCC Plan considering industry standards. In addition, recommended practices, safety considerations, and requirements of other federal, state, or local regulations may be considered in the development and PE certification of the SPCC Plan. Section 112.3(d) specifically states that the PE certification of a Plan attests that "procedures for required inspections and testing have been established." Thus, in certifying an SPCC Plan, a PE is also certifying that the inspection program it describes is appropriate for the facility and is consistent with good engineering practice. Section 112.3(d) also states that the Plan must be prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of 40 CFR part 112.



Relevant guidance document text:
Examples of material repairs include:

- Removal or replacement of the annular plate ring
- Replacement of the container bottom
- Jacking of a container shell
- Installation of a 12 inch or larger nozzle in the shell
- Replacement of a door sheet or tombstone in the shell
- Other shell repair
- Other repairs that might materially change the potential for oil to be discharged from the container.

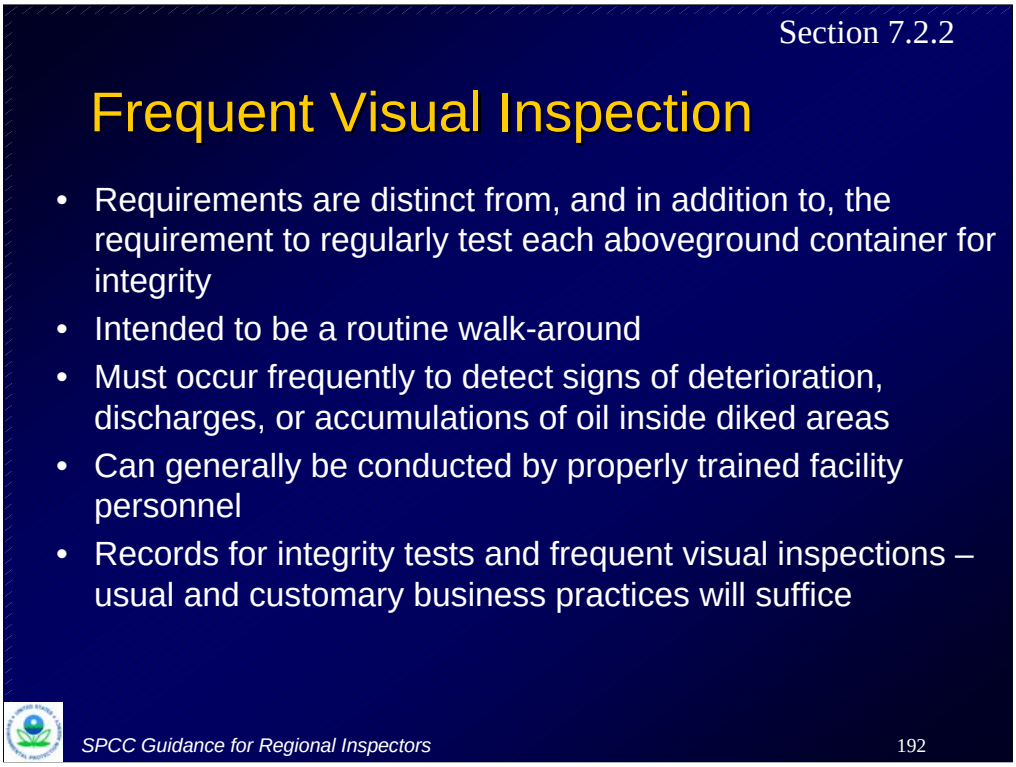
Testing on a regular schedule means testing per industry standards or at a frequency sufficient to prevent discharges. Whatever schedule the PE selects must be documented in the Plan (67 FR 47119). The frequency of integrity tests should reflect the particular conditions of the container such as:

- Age
- Service history
- Original construction specifications
- Prior inspection results
- Existing condition of the container
- Degree of risk of a discharge to navigable waters and adjoining shorelines

Rule Text:

§§112.8(c)(6) and 112.12(c)(6)

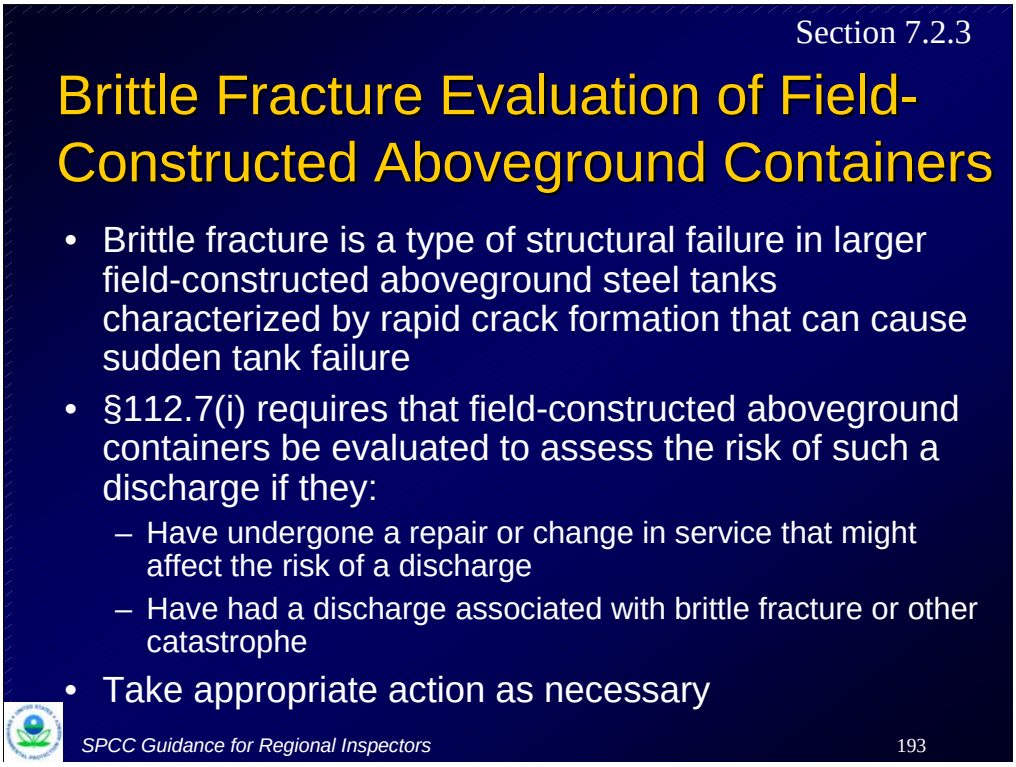
Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. The frequency of and type of testing must take into account container size and design (such as floating roof, skid-mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.



Relevant guidance document text:

There must be a frequent inspection of the outside of the container for signs of deterioration, discharges, or accumulations of oil inside diked areas (§112.8(c)(6)). This visual inspection is intended to be a routine walk-around. EPA expects that the walk-around, which will occur on an ongoing routine basis, can generally be conducted by properly trained facility personnel, as opposed to the more intensive but less frequent visual inspection component of the non-destructive examination conducted by qualified testing/inspection personnel. Qualifications of these personnel are outlined in tank inspection standards, such as API 653 and STI SP-001. A facility owner or operator can, for example, visually inspect the outside of bulk storage containers on a daily, weekly, and/or monthly basis, and supplement this inspection with integrity testing (see above) performed by a certified inspector, with the scope and frequency determined by industry standards or according to a site-specific inspection program developed by the PE.

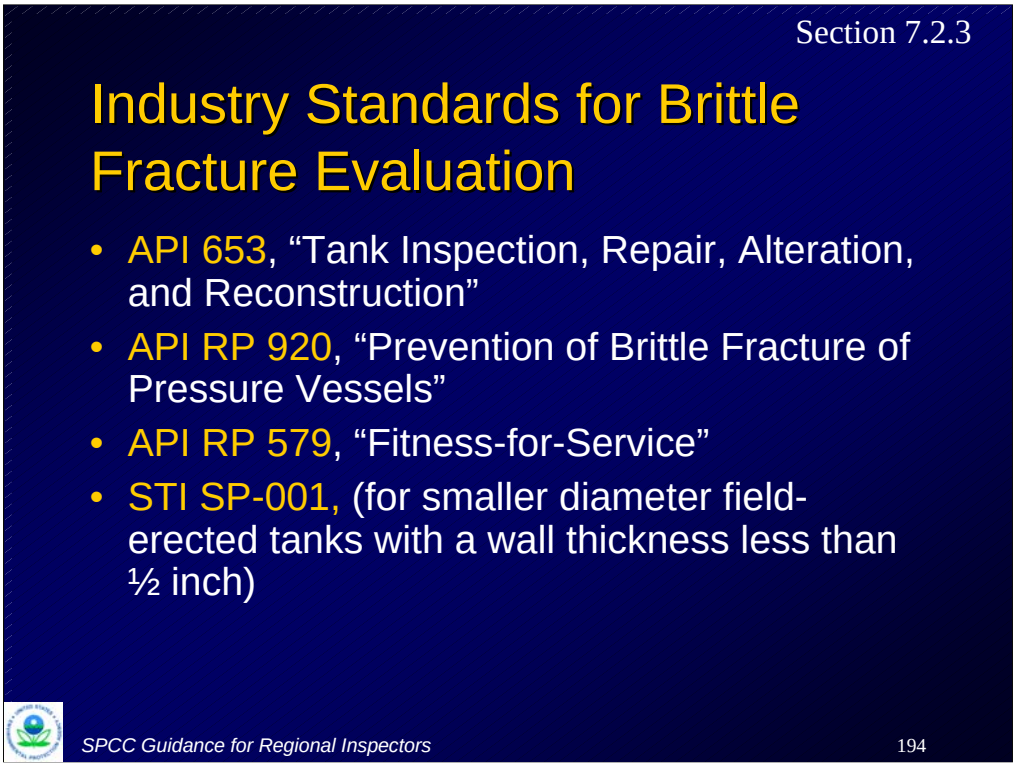
Oil-filled electrical, operating, and manufacturing devices or equipment are not considered bulk storage containers; therefore, the integrity testing requirements in §§112.8(c)(6) and 112.12(c)(6) do not apply to those devices or equipment. However, EPA recommends that even where not specifically required by the rule, it is good engineering practice to frequently inspect the outside of oil-filled operational, electrical, and manufacturing equipment to determine whether it could cause a discharge. For example, in a food manufacturing process, certain containers that contain edible oil (such as reactors, fermentors, or mixing tanks) are considered oil-filled manufacturing equipment and are not required to undergo integrity testing. Since a discharge as described in §112.1(b) can occur from manufacturing, discharge discovery and thus visual inspection procedures outlined in an SPCC Plan should include this equipment as well as other oilfilled equipment to prevent such a discharge as part of the facility's countermeasures per §112.7(a)(3)(iv) for discharge discovery. Although oil-filled equipment is not subject to the integrity testing requirements under §112.8(c)(6) or §112.12(c)(6), EPA recommends routine inspections at least visually to detect discharges as part of the facility's countermeasures per §112.7(a)(3)(iv) for discharge discovery.



Rule Text:

§112.7(i)

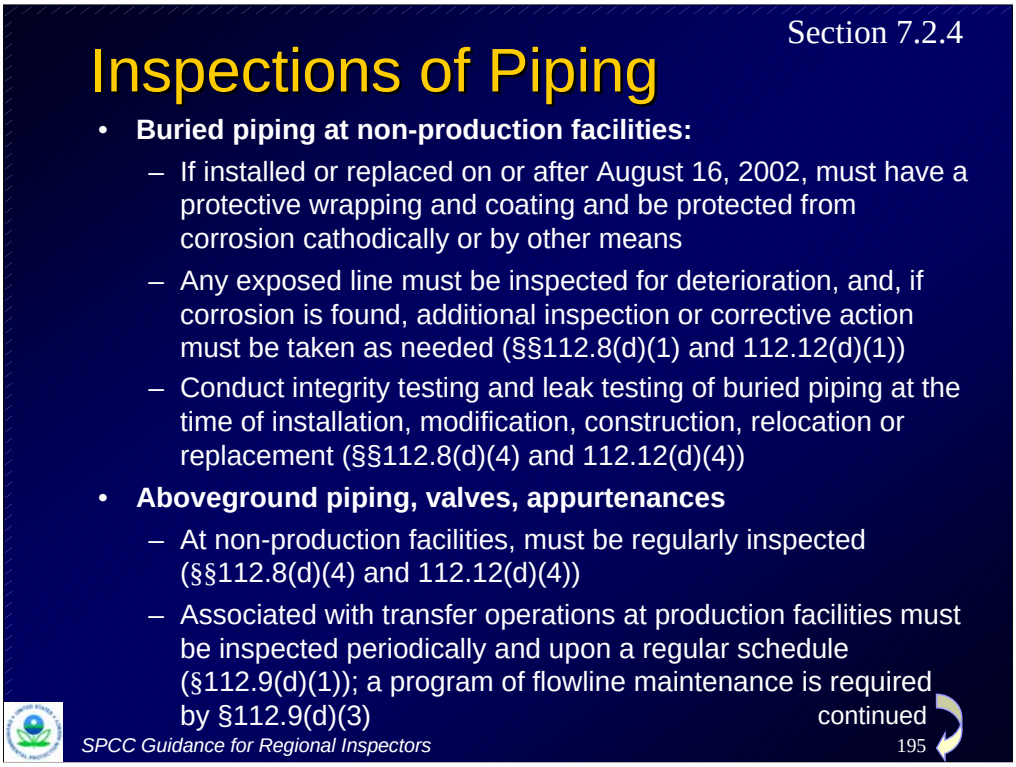
If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.



Relevant guidance document text:

Section 112.7(i) of the SPCC rule requires that field-constructed aboveground undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed catastrophe, or have had a discharge associated with brittle fracture or other catastrophe, be evaluated to assess the risk of such a discharge. Unless the original design shell thickness of the tank is less than one-half inch (see API 653, Section 5, and STI SP-001, Appendix B), evidence of this evaluation should be documented in the facility’s SPCC Plan.

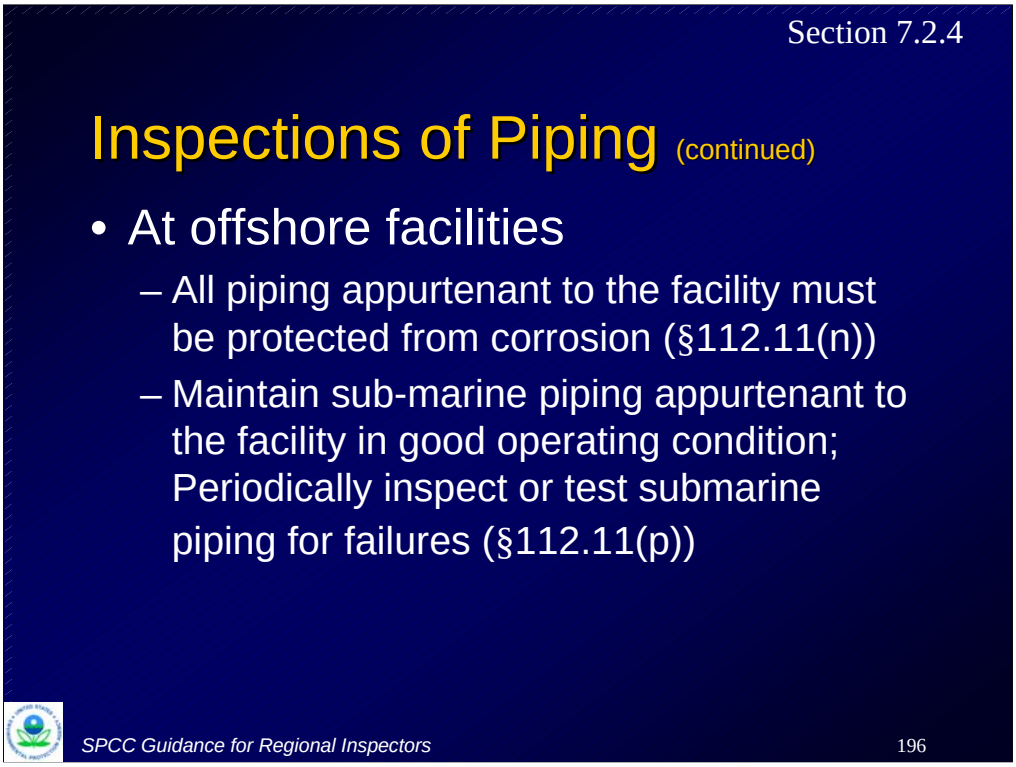
In summary, industry standards discuss methods for assessing the risk of brittle fracture failure for a field-erected aboveground container and for performing a brittle fracture evaluation including API 653, “Tank Inspection, Repair, Alteration, and Reconstruction,” API RP 920 “Prevention of Brittle Fracture of Pressure Vessels,” and API RP 579, “Fitness-for-Service.” These standards include a decision tree or flowchart for use by the owner/operator and PE in assessing the risk of brittle fracture. STI SP-001 also addresses brittle fracture failures for smaller diameter field-erected tanks with a wall thickness less than one-half inch.



Relevant guidance document text:

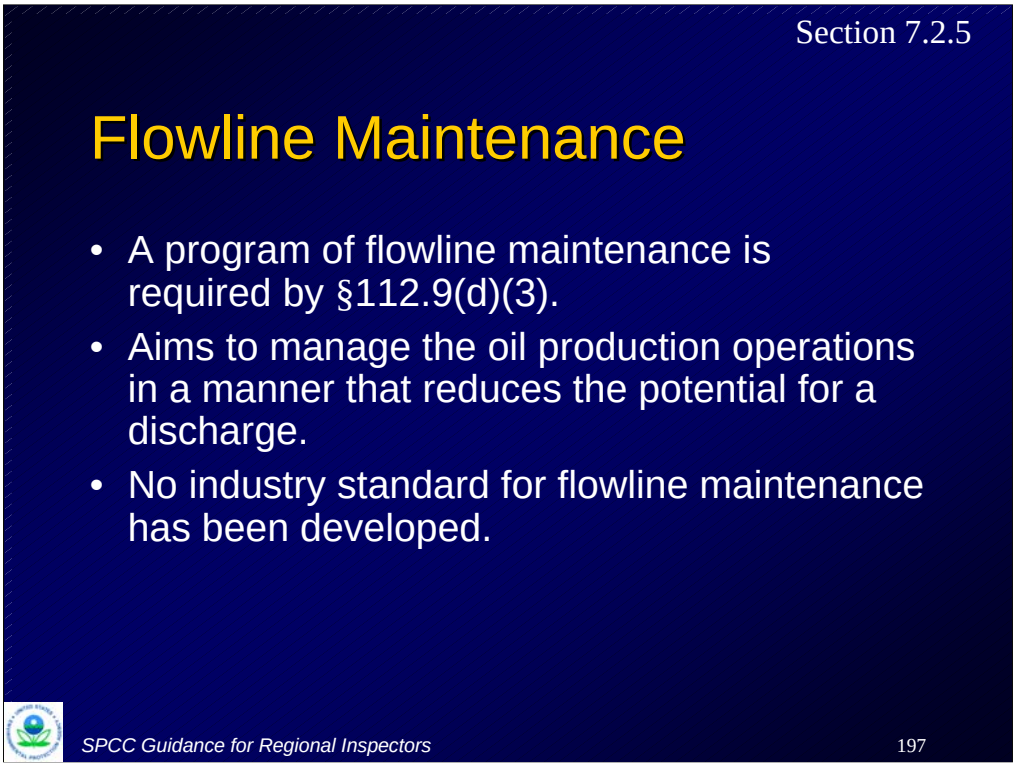
For onshore facilities, the SPCC rule specifies the following inspection and testing requirements for piping. Buried piping at non-production facilities that has been installed or replaced on or after August 16, 2002, must have a protective wrapping and coating and be protected from corrosion cathodically or by other means, as per §§112.8(d)(1) and 112.12(d)(1). Any exposed line must be inspected for deterioration, and, if corrosion damage is found, additional inspection or corrective action must be taken as needed.

Aboveground piping, valves, and appurtenances at non-production facilities must be regularly inspected, as per §§112.8(d)(4) and 112.12(d)(4) and in accordance with industry standards. Buried piping must be integrity and leak tested at the time of installation, modification, construction, relocation, or replacement.



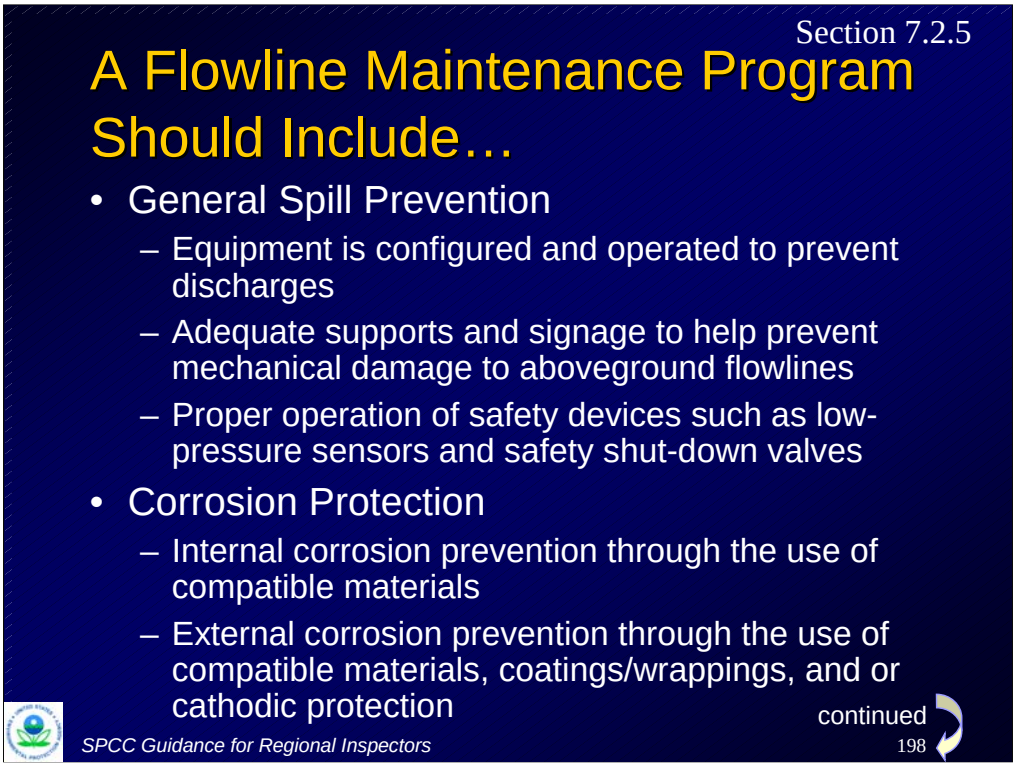
Relevant guidance document text:

For offshore facilities, §112.11(n) specifies that all piping appurtenant to the facility must be protected from corrosion, such as with protective coatings or cathodic protection. Section 112.11(p) requires that sub-marine piping appurtenant to the facility be maintained in good operating condition at all times, and that such piping be inspected or tested for failures periodically and according to a schedule.



Relevant guidance document text:

The objective of the SPCC flowline maintenance program requirement (§112.9(d)(3)) is to help prevent oil discharges from production flowlines, e.g., the piping that extends from the pump/well head to the production tank battery. Common causes of such discharges include mechanical damage (i.e., impact, rupture) and corrosion. A flowline maintenance program aims to manage the oil production operations in a manner that reduces the potential for a discharge. It usually combines careful configuration, inspection, and ongoing maintenance of flowlines and associated equipment to prevent and mitigate a potential discharge. EPA recommends that the scope of a flowline maintenance program include periodic examinations, corrosion protection, flowline replacement, and adequate records, as appropriate. EPA suggests that facility owner/operators conduct inspections either according to industry standards or at a frequency sufficient to prevent a discharge as described in §112.1(b). EPA is aware that API attempted to develop an industry standard for flowline maintenance, but the standard has not been finalized.

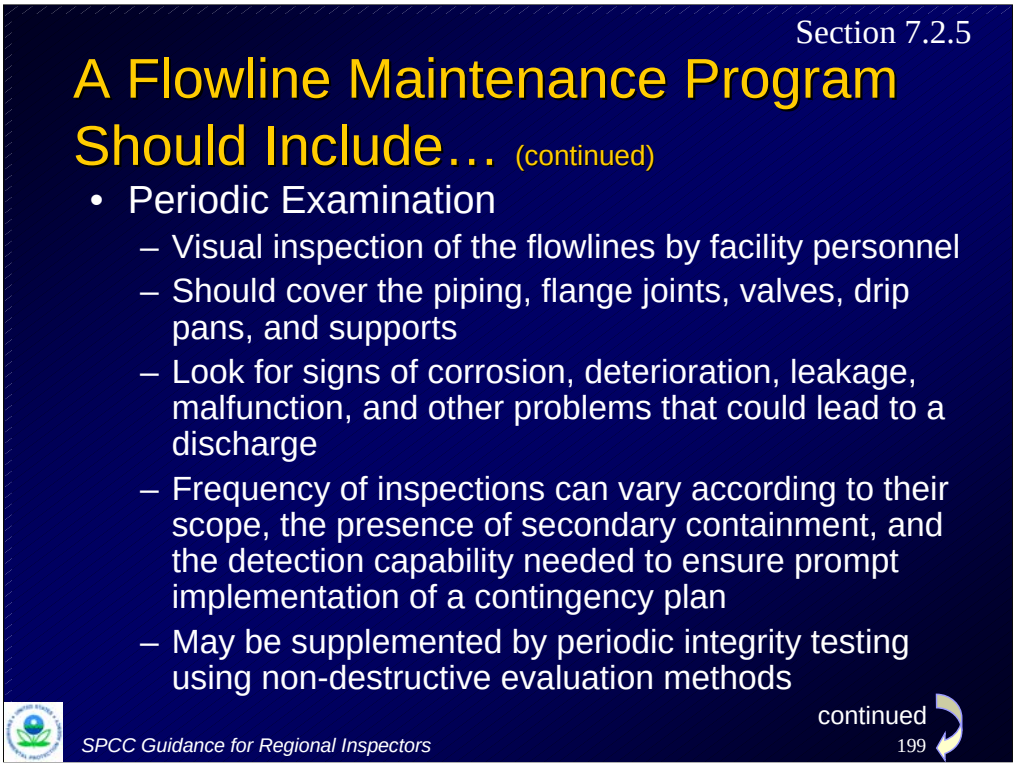


Relevant guidance document text:

A flowline maintenance program should ensure that flowlines, associated equipment, and safety devices are kept in good condition and would operate as designed in the event of a discharge. The PE certifying the Plan will typically establish the scope and frequency of inspections, tests, and preventive maintenance based on industry standards, manufacturer's recommendations, and other such sources of good engineering practice**.**

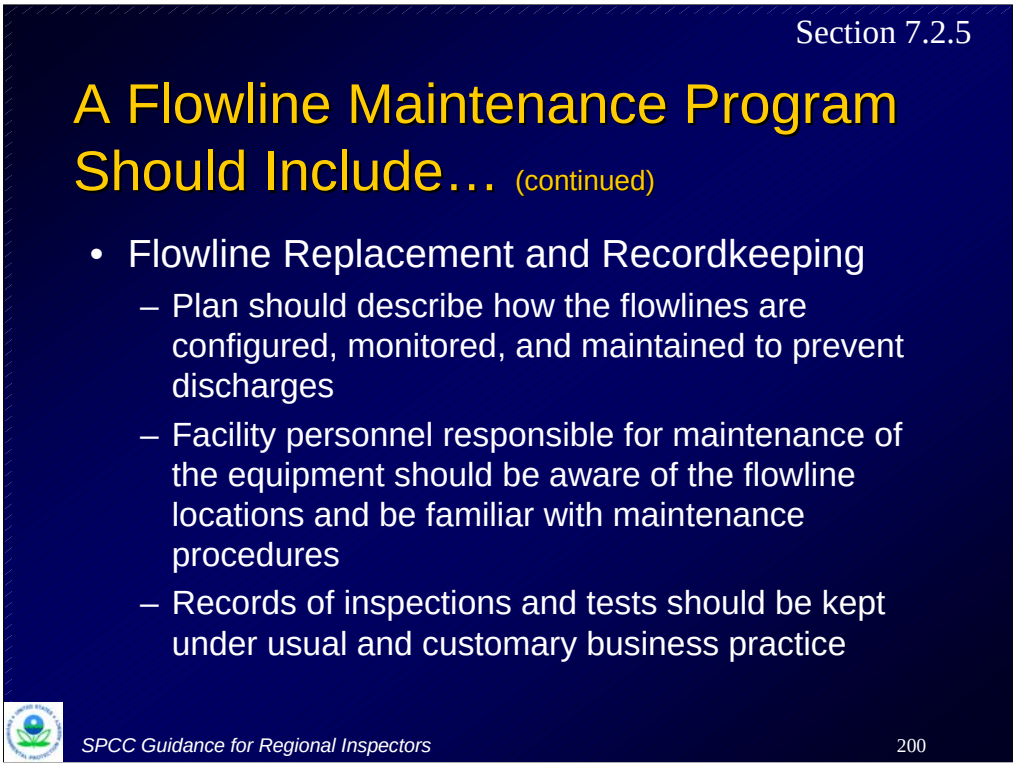
General Spill Prevention: The maintenance program should ensure that the equipment is configured and operated to prevent discharges. Adequate supports and signage should be maintained to help prevent mechanical damage to aboveground flowlines. Finally, the maintenance program should ensure the proper operation of safety devices such as low-pressure sensors and safety shut-down valves to mitigate the extent of a spill in the event of a flowline rupture.

Corrosion Protection: Internal corrosion may be prevented through the use of compatible materials (PVC, fiberglass, coatings) or by the addition of corrosion inhibitors. External corrosion may be prevented through the use of compatible materials, coatings/wrappings, and/or cathodic protection.



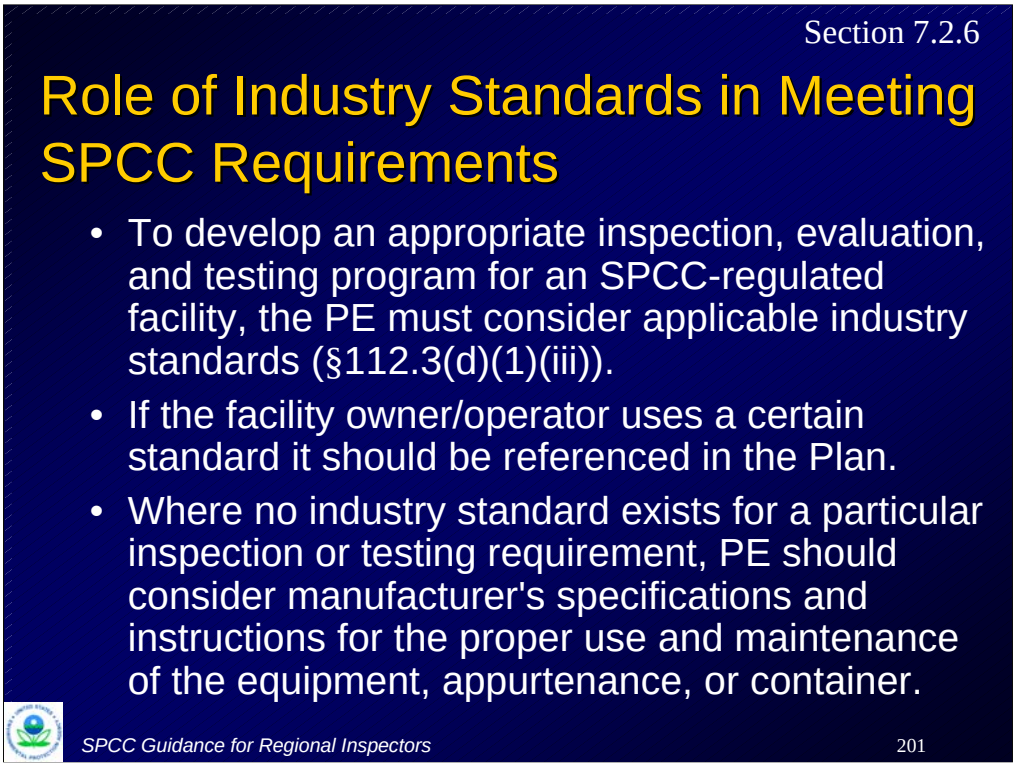
Relevant guidance document text:

Visual observation of the flowlines by facility personnel should be included as part of any flowline maintenance program and is of paramount importance for those facilities with flowlines that have no secondary containment and rely on rapid spill detection to implement a contingency plan in a timely manner. Facility personnel may “walk the flowlines” or perform aerial fly-overs, if they are located aboveground, to detect any evidence of leakage. The visual inspection should cover the piping, flange joints, valves, drip pans, and supports, and look for signs of corrosion, deterioration, leakage, malfunction, and other problems that could lead to a discharge. The frequency of inspections can vary according to their scope, the presence of secondary containment, and the detection capability needed to ensure prompt implementation of a contingency plan (if no containment is present), and may include daily, monthly, quarterly, or annual inspections. Regular visual inspection may be supplemented by periodic integrity testing using non-destructive evaluation methods, such as ultrasonic or other techniques to determine remaining wall thickness, or hydrostatic testing at a pressure above normal operating pressure. This guidance document refers to some relevant industry standards that describe methods used to test the integrity of piping, such as API 570 and ASME B31.4.



Relevant guidance document text:

The facility's SPCC Plan should describe how the flowlines are configured, monitored, and maintained to prevent discharges. The program is to be implemented in the field, and facility personnel responsible for the maintenance of the equipment should be aware of the flowline locations and be familiar with maintenance procedures, including replacement of damaged and/or leaking flowlines. Records of inspections and tests kept under usual and customary business practices should be prepared and made available for review, as required by the rule (§112.7(e)).

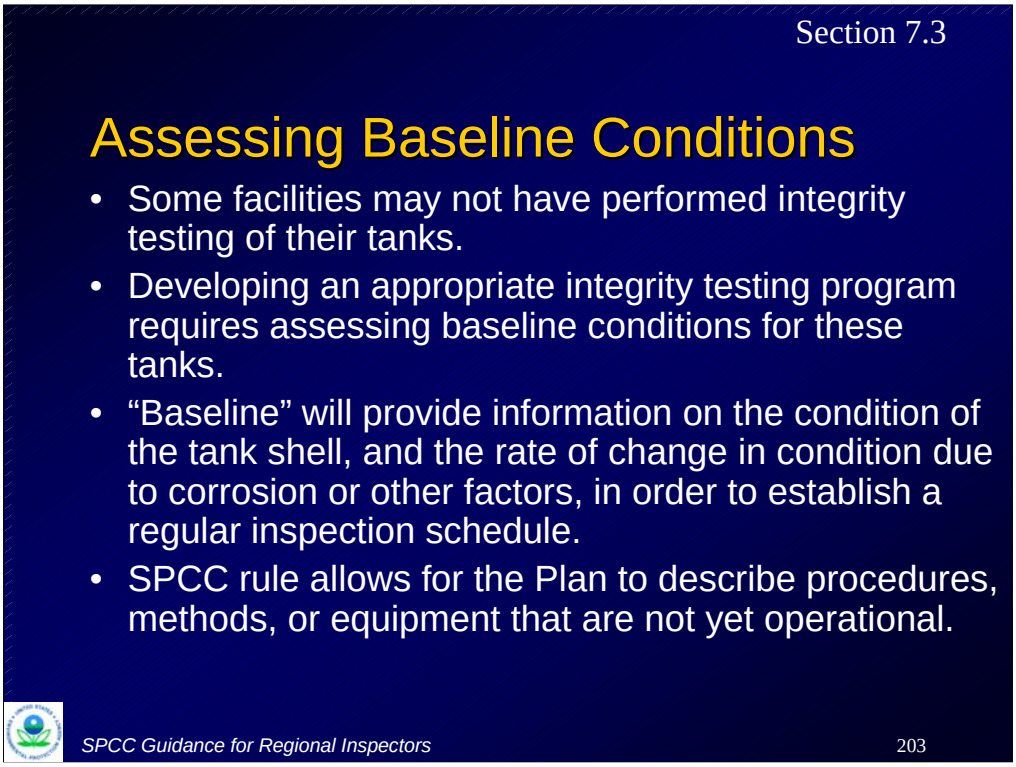


Relevant guidance document text:

Where no specific and general industry standard exists to determine what constitutes good engineering practice for a particular inspection or testing requirement, the PE should consider manufacturer's specifications and instructions for the proper use and maintenance of the equipment, appurtenance, or container. If neither a specific and objective industry standard or a specific and objective manufacturer's instruction apply, the PE may also call upon his/her professional experience to develop site-specific inspection and testing requirements for the facility or equipment as per §112.3(d)(1)(iv).

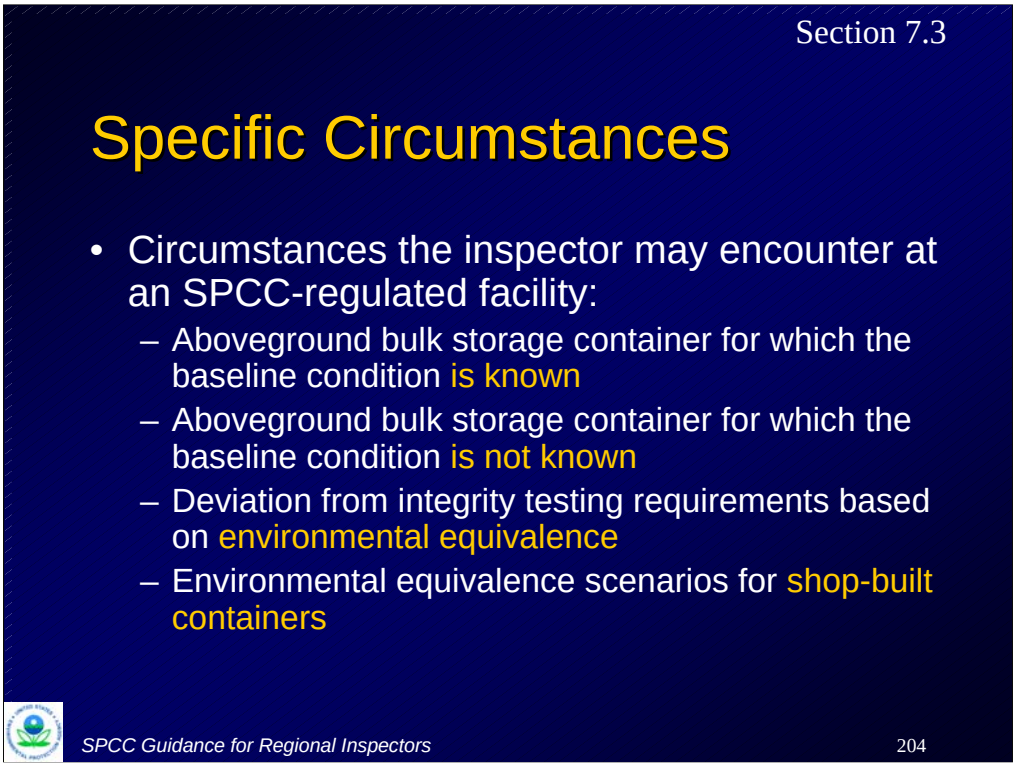
Use of Industry Standards and Recommended Practices

- Use of a particular standard is voluntary.
- If a standard (or parts of a standard) is incorporated into a facility's SPCC Plan, then adherence to that standard is mandatory for implementation of the Plan.
- Guidance provides an overview and description of the scope and key elements of pertinent industry inspection standards.



Relevant guidance document text:

Some facilities may not have performed integrity testing of their tanks. In this case, developing an appropriate integrity testing program will require assessing baseline conditions for these tanks. This "baseline" will provide information on the condition of the tank shell, and the rate of change in condition due to corrosion or other factors, in order to establish a regular inspection schedule. Section 112.7 requires that if any facilities, procedures, methods, or equipment are not yet fully operational, the SPCC Plan must explain the details of installation and operational start-up; this applies to the inspection and testing programs required by the rule. For all types of facilities, the PE is responsible for making the final determination on the scope and frequency of testing when certifying that an SPCC Plan is consistent with good engineering practice and is appropriate for the facility.

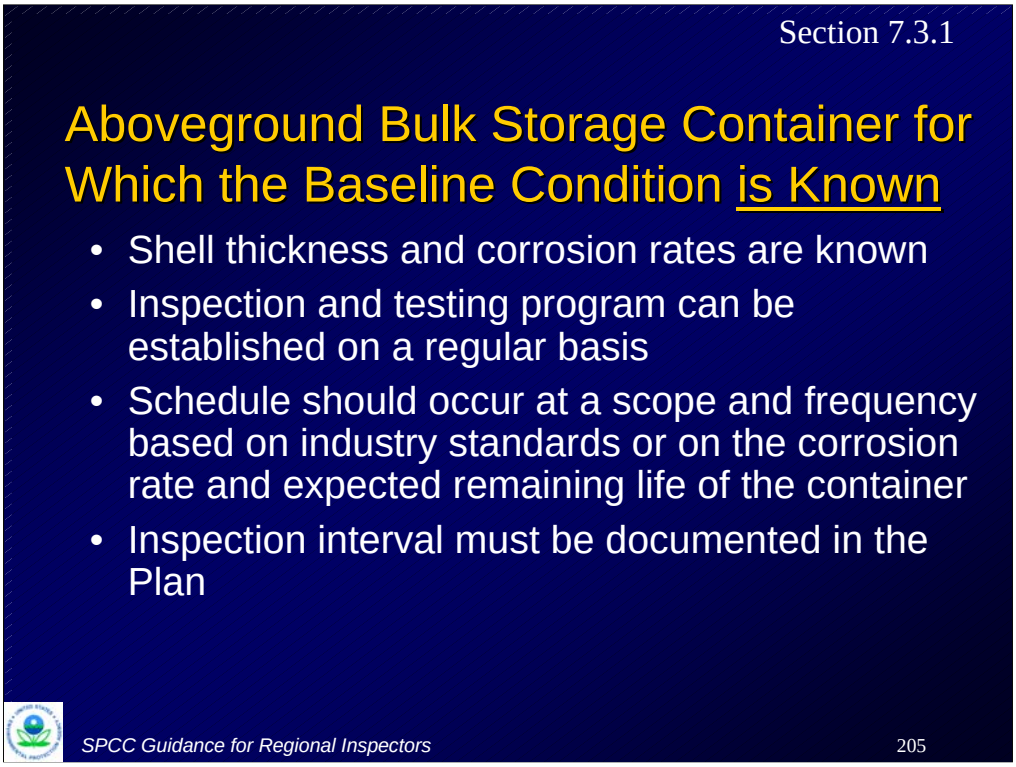


Relevant guidance document text:

This section provides guidance on integrity testing for the following circumstances the inspector may encounter at an SPCC-regulated facility:

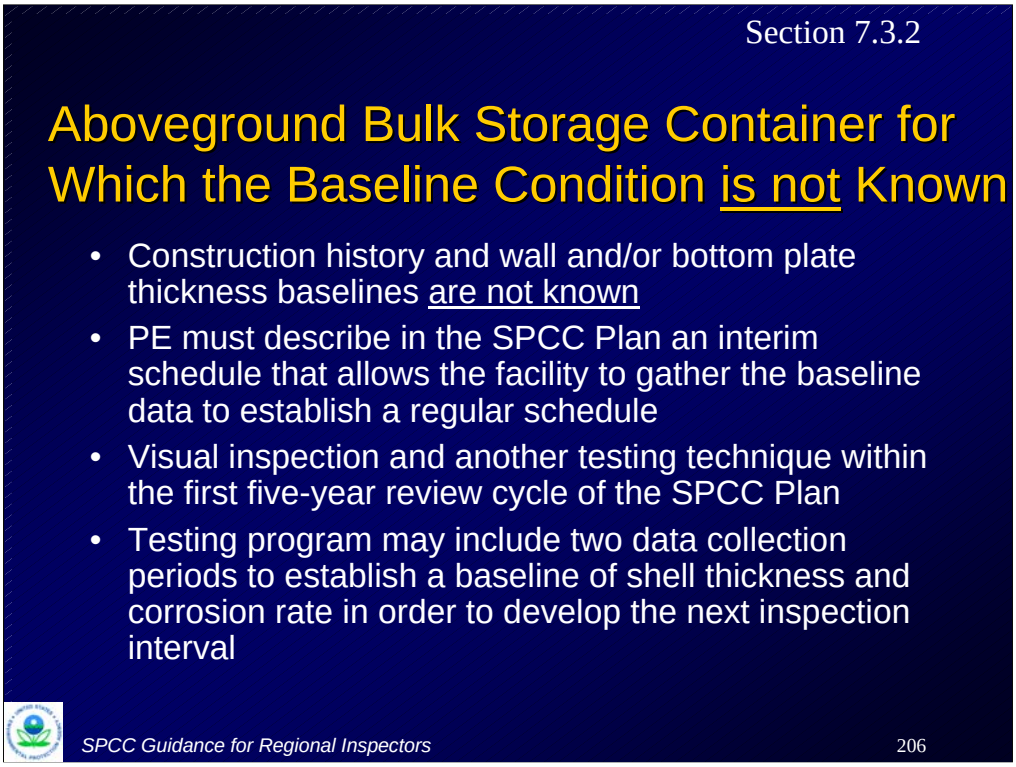
- Aboveground bulk storage containers for which the baseline condition is known;
- Aboveground bulk storage containers for which the baseline condition is *not* known;
- Deviation from integrity testing requirements based on environmental equivalence; and
- Environmental equivalence scenarios for shop-built containers.

This is not a comprehensive list of circumstances. For these and other cases, the PE may recommend alternative approaches.



Relevant guidance document text:

In the case of tanks for which the baseline condition is known (e.g., the shell thickness and corrosion rates are known), the inspection and testing schedule should typically occur at a scope and frequency based on industry standards (or the equivalent developed by a PE for the site-specific SPCC Plan) per §112.8(c)(6) or §112.12(c)(6). There is an advantage to knowing the baseline condition of a tank, particularly if the remaining wall thickness and the corrosion rate are known. Only when the baseline is known can an inspection and testing program be established on a regular schedule. The inspection interval should be identified consistent with specific intervals per industry standards or should be based on the corrosion rate and expected remaining life of the container. This inspection interval must be documented in the Plan in accordance with §§112.3(d), 112.7(e), 112.8(c)(6), and 112.12(c)(6). API 653 is an example of an industry standard that directs the owner/operator to consider the remaining wall thickness and the established corrosion rate to determine an inspection interval for external and internal inspections and testing.



Relevant guidance document text:

For a facility to comply with the requirement for integrity testing of containers on a regular schedule (§§112.8(c)(6) and 112.12(c)(6)), a baseline condition for each container is necessary to establish inspection intervals. The PE must attest that procedures for required inspections and testing have been established (§112.3(d)(1)(iv)). However, for shop-built and field-erected containers for which construction history and wall and/or bottom plate thickness baselines *are not known,* a regular integrity testing program cannot be established. Instead, the PE must describe in the SPCC Plan an interim schedule (in accordance with the introductory paragraph of §112.7) that allows the facility to gather the baseline data to establish a regular schedule of integrity testing in accordance with §§112.8(c)(6) and 112.12(c)(6). It should be noted that the introductory paragraph of §112.7 of the SPCC rule allows for the Plan to describe procedures, methods, or equipment that are not yet operational, and include a discussion of the details.

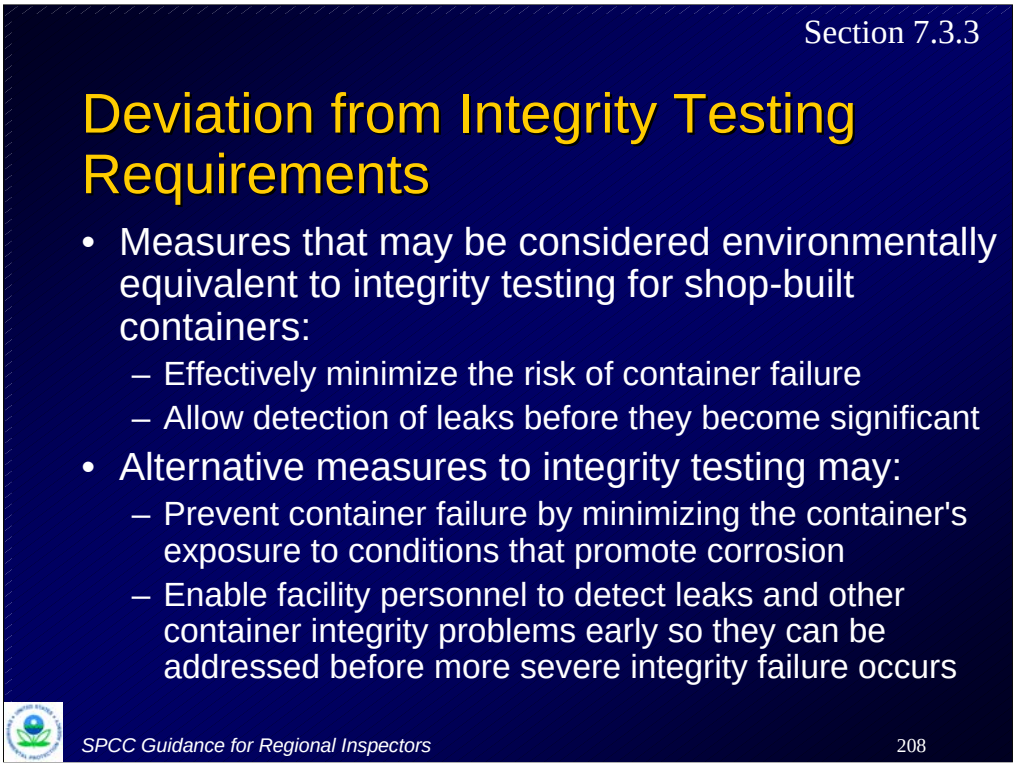
When no baseline information is available for a container, the PE may schedule visual inspection and another testing technique within the first five-year review cycle of the SPCC Plan in order to establish a regular integrity testing schedule based on current container conditions. In this example, the review cycle would begin on the revised rule implementation deadline of August 18, 2006, so the first (baseline) container inspection and integrity test would be completed by August 18, 2011. In the case of a tank that is newly built, construction data (e.g., as-built drawings and/or manufacturers cut-sheets) may typically be used as an initial datum point to establish wall thicknesses and would be included in the established procedures for inspection and testing.

Example Baselining Plan to Determine Integrity Testing Inspection

- Scenario:
  - Facility has three aboveground atmospheric, mid-carbon steel tanks of different ages and conditions. Some have prior inspection histories, others have never been inspected. Although there is limited history available for tank construction, the tanks are presumed to be field-erected tanks and each have 100,000 gallons in storage capacity. What is an appropriate inspection schedule for these tanks? API 653 is the referenced inspection standard.
- Additional information:
  - API 653 recommends an initial visual inspection and non-destructive shell test of tanks within 10 years of construction, regardless of condition
- Determination of Inspection Schedule:

Determination of inspection schedule:

	Construction Date	Last Inspection	Next Inspection (External)	Next Inspection (Internal)
Tank 1	unknown	none	formal visual and shell test (external) within first five-year Plan review cycle	formal (internal) bottom inspection within first five-year Plan review cycle
Tank 2	2001	none	**2006** for both visual inspection and non-destructive shell test	**2011** (i.e., not to exceed 10 years when corrosion rate of tank bottom is not known)
Tank 3	1984	1994	**1999 & 2004** formal visual **2009** non-destructive shell test both intervals may be decreased based on calculated corrosion rates from the 1994 inspection.	**2014** or less based on calculated corrosion rates from the 1994 inspection



Relevant guidance document text:

The SPCC rule provides flexibility regarding integrity testing requirements of bulk storage containers, as long as the alternatives provide equivalent environmental protection per §112.7(a)(2). Measures that may be considered environmentally equivalent to integrity testing for shop-built containers are those that effectively minimize the risk of container failure and that allow detection of leaks before they become significant. Alternative measures to integrity testing requiring the combination of internal, external, and non-destructive evaluation may, for example, prevent container failure by minimizing the container's exposure to conditions that promote corrosion (e.g., direct contact with soil), or they may enable facility personnel to detect leaks and other container integrity problems early so they can be addressed before more severe integrity failure occurs. The ability to use an environmentally equivalent alternative to integrity testing will often hinge on the degree of protection provided by the tank configuration and secondary containment. EPA believes that larger tanks (including larger shop-built tanks) may require inspection by a professional inspector, in addition to the visual inspection by the tank owner/operator during the tank's life. EPA defers to applicable industry standards and to the certifying PE as to the type and scope of inspections required in each case. However, the inspector should look for a clear rationale for the development of the inspection and testing program, paying close attention to the referenced industry standard.

Scenario 1: Elevated Drums

- Applies to containers that are:
  - Smaller shop-built containers (e.g., 55-gallon drums)
  - Inspected at least monthly
  - Visible on all sides
- Visual inspection alone might be considered to provide equivalent environmental protection
- Justification: Elevating storage drums on an appropriately designed storage rack, such that all sides are visible, allows the effective visual inspection of containers for early signs of deterioration and leakage

Scenario 2: Single-Use Bulk Storage Containers

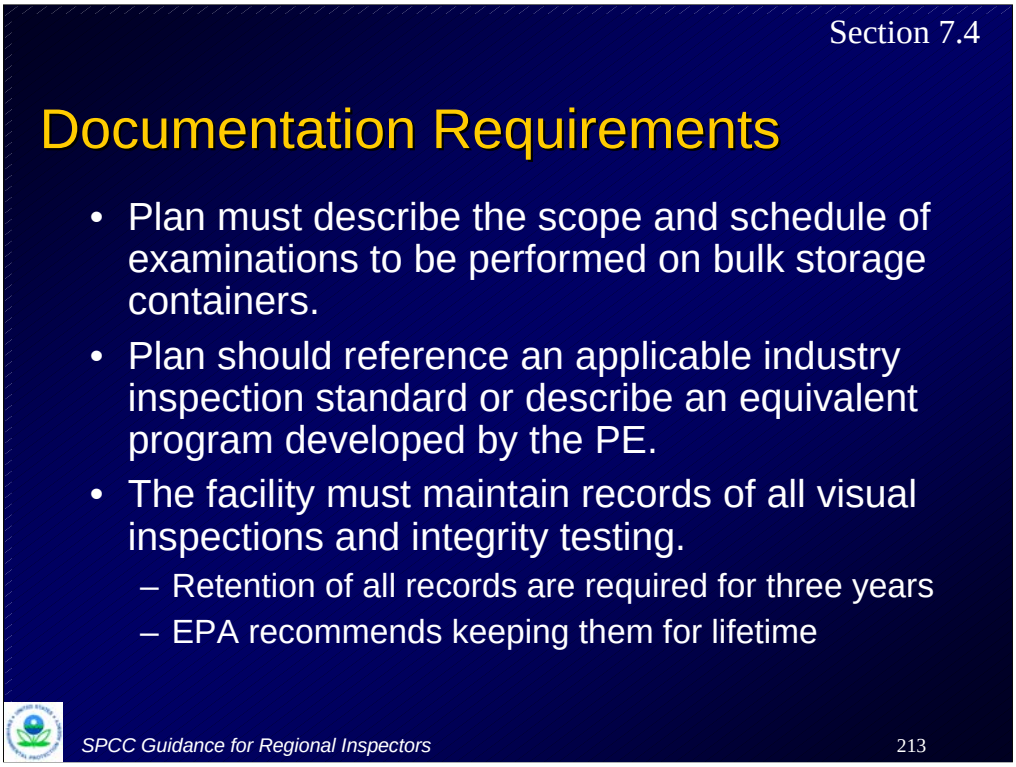
- Applies to containers that are:
  - Single-use
  - For dispensing only (i.e., container is not refilled)
- Visual inspection alone might be considered to provide equivalent environmental protection.
- Justification: Since these are single-use, internal integrity testing for corrosion is generally not appropriate because the containers are not maintained on site for a long enough period of time such that degradation and deterioration of the container's integrity might occur.
- When the container is empty and meets the definition of a permanently closed container, it is not subject to the SPCC requirements.

Scenario 3: Elevated Shop-built Containers

- Applies to well-designed shop-built containers that have a shell capacity of 30,000 gallons or less
- Visual inspection, plus certain additional actions to ensure that the containers are not in contact with the soil may provide equivalent environmental protection.
- Examples of such adequate measures include shop-built containers that are elevated on properly designed tank saddles

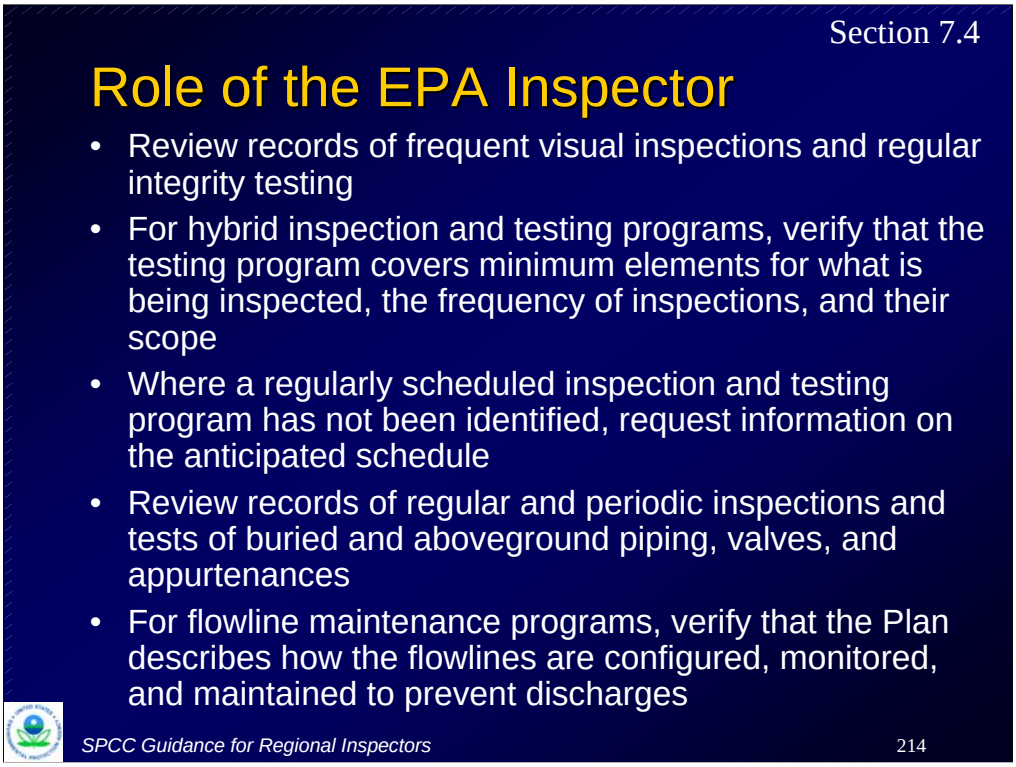
Scenario 4: Shop-built Containers Placed on a Liner

- Applies to containers that have a shell capacity of 30,000 gallons or less.
- Visual inspection, plus certain additional actions to ensure the containment and detection of leaks, may provide equivalent environmental protection.
- Actions may include placing the containers onto a barrier between the container and the ground, designed and operated in a way that ensures that any leaks are immediately detected. For example, an adequately designed, maintained, and inspected synthetic liner.



Relevant guidance document text:

The facility must maintain records of all visual inspections and integrity testing, as required by the SPCC rule in §§112.7(e), 112.8(c)(6), 112.9(c)(3), and 112.12(c)(6). Records do not need to be specifically created for this purpose, and may follow the format of records kept under usual and customary business practices. These records should include the frequent inspections performed by facility personnel. Also, industry standards generally provide example guidelines for formal tank inspections, as well as sample checklists. The EPA inspector should review the inspection checklists used by the facility to verify that they cover at least the minimum elements and are in accordance with the PE-certified inspection and testing program. The tank inspection checklist from Appendix F of 40 CFR part 112, reproduced as Table 7-6 at the end of this chapter, provides an example of the type of information that may be included on an owner/operator-performed inspection checklist.



Relevant guidance document text:

In summary, the EPA inspector should verify that the owner or operator has inspection reports that document the implementation of the testing, evaluation, or inspection criteria set forth in the Plan. He/she may also verify whether the recommended actions that affect the potential for a discharge have been taken to ensure the integrity of the container/piping until the next scheduled inspection or replacement of the container/piping. When an inspection procedure is outlined in the Plan that does not meet the requirement of §§112.8(c)(6) and 112.12(c)(6) (e.g., a combination of visual inspection and another testing technique), the inspector should verify that the Plan includes a discussion of an environmentally equivalent measure in accordance with §112.7(a)(2). Implementation of the SPCC Plan as certified by the PE is the responsibility of the facility owner/operator (§112.3(d)(2)).

A hybrid testing program may be appropriate for a facility where an industry inspection standard does not yet contain enough specificity for a particular facility's universe of tanks and/or configuration, or while modifications to an industry inspection standard are under consideration. For example, a tank user may have made a request to the industry standard-setting organizations recommending a change or modification to a standard. Both API and STI have mechanisms to allow tank users (and the regulatory community) to request changes to their respective inspection standards. In this case, the modification to a standard may be proposed, but not yet accepted by the standard-setting organization. In the meantime, the facility is still subject to the SPCC requirements to develop an inspection and testing program. In this scenario, a hybrid inspection and testing program may be appropriate. When reviewing the scope and schedule of a hybrid program, the inspector should review whether an industry inspection standard and appropriate goodengineering practices were used in the development of the hybrid program.

Summary of Industry Standards and Regulations

- Section 7.5 provides a description of the key elements of pertinent industry inspection standards
- Industry standards are technical guidelines created by experts in a particular industry for use throughout that industry
  - Assist in establishing common levels of safety and common practices for manufacture, maintenance, and repair
  - Created by standard-setting organizations using a consensus process, the standards establish the minimum accepted industry practice

Types of Industry Guidelines

- Standard (or code): Set of instructions or guidelines. Use of a particular standard is voluntary. Some groups draw a distinction between a standard and a code. The American Society of Mechanical Engineers (ASME), for example, stipulates that a code is a standard that "has been adopted by one or more governmental bodies and has the force of law . . ."
- Recommended practice: Advisory document often useful for a particular situation.
- Specification: May be one element of a code or standard or may be used interchangeably with these terms.

Standards and other Guidelines Summarized

- API Standard 653 – Tank Inspection, Repair, Alteration, and Reconstruction
- STI Standard SP-001 – Standard for Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible and Flammable Liquids
- API Recommended Practice 575 – Inspection of Atmospheric and Low-Pressure Storage Tanks
- API Recommended Practice 12R1 – Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service
- API 570 – Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-service Piping Systems
- API Recommended Practice 574 – Inspection Practices for Piping System Components

continued

Standards and other Guidelines Summarized (continued)

- API Recommended Practice 1110 – Pressure Testing of Liquid Petroleum Pipelines
- API Recommended Practice 579 – Fitness-For-Service, Section 3
- API Standard 2610 – Design, Construction, Operation, Maintenance, and Inspection of Terminal & Tank Facilities
- ASME B31.3 – Process Piping
- ASME Code for Pressure Piping B31.4-2002 – Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids
- DOT 49 CFR 180.605 – Requirements for Periodic Testing, Inspection, and Repair of Portable Tanks and Other Portable Containers
- FAA Advisory Circular 150/5230-4A – Aircraft Fuel Storage, Handling, and Dispensing on Airports
- FAA Advisory Circular 150/5210-20 – Ground Vehicle Operations on Airports

Relevant guidance document text:

Although EPA refers to certain industry standards for inspection and testing, it does not require that inspections and tests be performed according to a specific standard. The PE may use industry standards along with other good engineering principles to develop a customized inspection and testing program for the facility (a “hybrid inspection program”), considering the equipment type and condition, characteristics of products stored and handled at the facility, and other site-specific factors. For example, a hybrid testing program may be developed in cases where no specific industry inspection standard exists to date, as is the case for tanks that contain certain products such as animal fats and vegetable oils, asphalt, or oils that have a specific gravity greater than 1.0. Although there are no industry standards specific to integrity testing of bulk storage containers containing vegetable oils at this time, some facilities with large animal fat and vegetable oil tanks follow API 653. Additionally, the U.S. Food and Drug Administration (FDA) sets requirements for food-grade oils, which would need to be followed in addition to EPA’s integrity testing requirements.

Appendix A: Text of CWA 311

- *Summary:* The President is authorized to issue regulations establishing procedures, methods, equipment, and other requirements to prevent discharges of oil from vessels and facilities.

Appendix B: Selected Regulations

- 40 CFR part 109
- 40 CFR part 110
- 40 CFR part 112

Appendix C: Summary of Revised Rule Provisions

- Comparison between 1974 and 2002 SPCC rule
- Lists citations for substantive revisions and describes change from 1974 rule

Appendices D, E, and F

- Appendices D and E provide sample SPCC Plans for hypothetical facilities
  - Bulk Storage Facility
  - Production Facility
- Appendix F provides a sample contingency plan
- Sample plans provide examples and illustrations of how a facility could address a variety of scenarios
- Not a template to be adopted by a facility

Appendix G: EPA Inspection Checklists

- Goals/reasons for using a checklist:
  - Thorough inspections
  - Nationwide consistency
  - Data collection

How to Use the Checklists

- Collect facility information
- Check boxes for adequately meeting each provision required in plan and field
  - If a provision is required only in the plan or field, the other column is greyed out
- Room for comments on each page
  - Page to catalogue photos taken to document the inspections

Appendices to the Checklists

- Appendix A – collects information about containers and containment areas
- Appendix B – lists documentation of tests and inspections required to be kept with the Plan. This documentation is often kept together so inspector can check all documentation at once
- Appendix C – requirements for a spill contingency plan, which is required if a facility claims impracticability for secondary containment

Appendix H - Other Policy Documents

- Letter to Melissa Young of Petroleum Marketers Association of America (2001)
- Letter to Daniel Gilligan of Petroleum Marketers Association of America (May 2004)
- Letter to Mr. Chris Early of Safety-Kleen Corporation (July 14, 2004)
- DOT/EPA Memo “Jurisdiction over Breakout Tanks/Bulk Oil Storage Tanks (Containers) at Transportation-Related and Non-Transportation-Related Facilities” (February 4, 2000)
- FRP rule attachments C-I and C-II